

# Sequence Listing

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 Gerritsen, Mary E.  
 Goddard, Audrey  
 Godowski, Paul J.  
 Grimaldi, J. Christopher  
 Gurney, Austin L.  
 Kljavin, Ivar J.  
 Napier, Mary A.  
 Pan, James  
 Paoni, Nicholas F.  
 Roy, Margaret Ann  
 Stewart, Timothy A.  
 Tumas, Daniel  
 Watanabe, Colin K.  
 Williams, P. Mickey  
 Wood, William I.  
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 tactocaatt atgttgacag tacaactcatt gtacaggcgt ggagactcat 2650  
 tgtatgtata agaataattc tgacagttag tgacccggag tctctggtgt 2700  
 accctcttac cagtcagctg cctgcgagca gtcatttttt cctaaaggtt 2750  
 tacaagtatt tagaactttt cagttcaggg caaatgttc atgaagtatt 2800  
 tcctcttaaa catgggttagg aagctgatga cgttattgat tttgtctgga 2850  
 ttatgtttct ggaataattt taccaaaaca agctatttga gttttgactt 2900  
 gacaaggcaa aacatgacag tggattctct ttacaaatgg aaaaaaaaaa 2950  
 tccttatttt gtataaagga cttccctttt tgtaactaa tcctttttat 3000  
 tggtaaaaat tgtaaatata aatgtgcaac ttg 3033

<210> 6  
 <211> 251  
 <212> PRT  
 <213> Homo sapiens

<400> 6  
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 Arg Tyr Trp Phe Ala Ala Thr Val Ala Val Pro Leu Val Gly Lys  
 20 25 30  
 Leu Gly Leu Ile Ser Pro Ala Tyr Leu Phe Leu Trp Pro Glu Ala  
 35 40 45  
 Phe Leu Tyr Arg Phe Gln Ile Trp Arg Pro Ile Thr Ala Thr Phe  
 50 55 60  
 Tyr Phe Pro Val Gly Pro Gly Thr Gly Phe Leu Tyr Leu Val Asn  
 65 70 75  
 Leu Tyr Phe Leu Tyr Gln Tyr Ser Thr Arg Leu Glu Thr Gly Ala  
 80 85 90  
 Phe Asp Gly Arg Pro Ala Asp Tyr Leu Phe Met Leu Leu Phe Asn  
 95 100 105

Trp Ile Cys Ile Val Ile Thr Gly Leu Ala Met Asp Met Gln Leu  
110 115 120

Leu Met Ile Pro Leu Ile Met Ser Val Leu Tyr Val Trp Ala Gln  
125 130 135

Leu Asn Arg Asp Met Ile Val Ser Phe Trp Phe Gly Thr Arg Phe  
140 145 150

Lys Ala Cys Tyr Leu Pro Trp Val Ile Leu Gly Phe Asn Tyr Ile  
155 160 165

Ile Gly Gly Ser Val Ile Asn Glu Leu Ile Gly Asn Leu Val Gly  
170 175 180

His Leu Tyr Phe Phe Leu Met Phe Arg Tyr Pro Met Asp Leu Gly  
185 190 195

Gly Arg Asn Phe Leu Ser Thr Pro Gln Phe Leu Tyr Arg Trp Leu  
200 205 210

Pro Ser Arg Arg Gly Gly Val Ser Gly Phe Gly Val Pro Pro Ala  
215 220 225

Ser Met Arg Arg Ala Ala Asp Gln Asn Gly Gly Gly Gly Arg His  
230 235 240

Asn Trp Gly Gln Gly Phe Arg Leu Gly Asp Gln  
245 250

<210> 7  
<211> 1373  
<212> DNA  
<213> Homo sapiens

<400> 7  
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attaactggt tggtagcttc tatcctgggg gctgagcgac tgcgggccag 100

ctctccctt actccctctc ggctccttgt ggcccaaagg cctaaccggg 150

gtccggcggt ctggcctagg gatcttccc gttgccoctt tggggcgggg 200

tggctgcgga agaagaagac gaggtggagt gggtagtgga gagcatcgcg 250

gggttcctgc gaggccaga ctggtccatc cccatcttgg acttttgga 300

acagaaatgt gaagttaact gcaaaggagg gcatgtgata actccaggaa 350

gccagagacc ggtgattttg gtggcctgtg ttccccttgt ttttgatgat 400

gaagaagaaa gcaaattgac ctatacagag attcatcagg aatacaaaa 450

actagttgaa aagctgttag aaggttacct caaagaaatt ggaattaatg 500

aagatcaatt tcaagaagca tgcactctc ctcttgcaaa gacccatata 550

tcacaggcca ttttgcaacc tgtgttgga gcagaagatt ttactatctt 600

taaagcaatg atggtccaga aaaacattga aatgcagctg caagccattc 650

gaataattca agagagaaat ggtgtattac ctgactgctt aaccgatggc 700

tctgatgtgg tcagtgacct tgaacacgaa gagatgaaaa tcctgagggg 750  
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 ggaaaaaaca gttatcagag gctaaaacag aagagcccac agtgcatcc 850  
 agtgaagctg caataatgaa taattcccaa ggggatgggtg aacattttgc 900  
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 ggaaatgaca gagaaccag aaatgacagc agaggagaag caaacattac 1250  
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 taaattatatt agtccttaca ctg 1373

<210> 8  
 <211> 367  
 <212> PRT  
 <213> Homo sapiens

<400> 8  
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 20 25 30  
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 35 40 45  
 Val Ile Thr Pro Gly Ser Pro Glu Pro Val Ile Leu Val Ala Cys 60  
 50 55 60  
 Val Pro Leu Val Phe Asp Asp Glu Glu Glu Ser Lys Leu Thr Tyr 75  
 65 70 75  
 Thr Glu Ile His Gln Glu Tyr Lys Glu Leu Val Glu Lys Leu Leu 90  
 80 85 90  
 Glu Gly Tyr Leu Lys Glu Ile Gly Ile Asn Glu Asp Gln Phe Gln 105  
 95 100 105  
 Glu Ala Cys Thr Ser Pro Leu Ala Lys Thr His Thr Ser Gln Ala 120  
 110 115 120  
 Ile Leu Gln Pro Val Leu Ala Ala Glu Asp Phe Thr Ile Phe Lys 135  
 125 130 135  
 Ala Met Met Val Gln Lys Asn Ile Glu Met Gln Leu Gln Ala Ile 150  
 140 145 150

Arg	Ile	Ile	Gln	Glu	Arg	Asn	Gly	Val	Leu	Pro	Asp	Cys	Leu	Thr
				155					160					165
Asp	Gly	Ser	Asp	Val	Val	Ser	Asp	Leu	Glu	His	Glu	Glu	Met	Lys
				170					175					180
Ile	Leu	Arg	Glu	Val	Leu	Arg	Lys	Ser	Lys	Glu	Glu	Tyr	Asp	Gln
				185					190					195
Glu	Glu	Glu	Arg	Lys	Arg	Lys	Lys	Gln	Leu	Ser	Glu	Ala	Lys	Thr
				200					205					210
Glu	Glu	Pro	Thr	Val	His	Ser	Ser	Glu	Ala	Ala	Ile	Met	Asn	Asn
				215					220					225
Ser	Gln	Gly	Asp	Gly	Glu	His	Phe	Ala	His	Pro	Pro	Ser	Glu	Val
				230					235					240
Lys	Met	His	Phe	Ala	Asn	Gln	Ser	Ile	Glu	Pro	Leu	Gly	Arg	Lys
				245					250					255
Val	Glu	Arg	Ser	Glu	Thr	Ser	Ser	Leu	Pro	Gln	Lys	Gly	Leu	Lys
				260					265					270
Ile	Pro	Gly	Leu	Glu	His	Ala	Ser	Ile	Glu	Gly	Pro	Ile	Ala	Asn
				275					280					285
Leu	Ser	Val	Leu	Gly	Thr	Glu	Glu	Leu	Arg	Gln	Arg	Glu	His	Tyr
				290					295					300
Leu	Lys	Gln	Lys	Arg	Asp	Lys	Leu	Met	Ser	Met	Arg	Lys	Asp	Met
				305					310					315
Arg	Thr	Lys	Gln	Ile	Gln	Asn	Met	Glu	Gln	Lys	Gly	Lys	Pro	Thr
				320					325					330
Gly	Glu	Val	Glu	Glu	Met	Thr	Glu	Lys	Pro	Glu	Met	Thr	Ala	Glu
				335					340					345
Glu	Lys	Gln	Thr	Leu	Leu	Lys	Arg	Arg	Leu	Leu	Ala	Glu	Lys	Leu
				350					355					360
Lys	Glu	Glu	Val	Ile	Asn	Lys								
				365										

<210> 9  
 <211> 418  
 <212> DNA  
 <213> Homo sapiens

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 ctatacagag attcatcagg aatacaaaaga actagtgtgaa aagctgttag 100  
 aaggttacct caaagaaatt ggaattaatg aagatcaatt tcaagaagca 150  
 tgcacttctc ctcttgcaaa gacccatata tcacaggcca tttttgcaac 200  
 ctgtgttggc agcagaagat ttactatct ttaaaagcaat gatggtccag 250  
 aaaaacattg aaatgcagct gcaagccatt cgaataattc aagagagaaa 300

tggtgtatta cctgactgct taaccgatgg ctctgatgtg gtcagtgacc 350  
 ttgaacacga agagatgaaa atcctgaggg aagttcttag aaaatcaaaa 400  
 gaggaatatg accaggaa 418

<210> 10  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 10  
 ttgacctata cagagattca tc 22

<210> 11  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 11  
 ctaagaactt ccttcaggat ttt 23

<210> 12  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 12  
 atgaagatca atttcaagaa gcatgcactt ctctctttgc 40

<210> 13  
 <211> 2886  
 <212> DNA  
 <213> Homo sapiens

<400> 13  
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 tactacgggg ctagacagtt actgtctcag ctctaggatg tgcgtttcttc 150  
 cactagaagc tcttctgagg gaggtaatta aaaaacagtg gaatggaaaa 200  
 acagtgtctg agtcatcctg taatatgtct cttgtcaaca atgtatacat 250  
 tctgtctagg tgccatattc attgctttta gctcaagtcg catcttacta 300  
 gtgaagtatt ctgccaatga agaaaacaag tatgattato ttccaactac 350  
 tgtgaatgtg tgctcagaac tgggtgaagct agttttctgt gtgcttgtgt 400  
 cattctgtgt tataaagaaa gatcatcaaa gtagaaattt gaaatatgct 450



tcttgaag aattctctga ttcatgaag tggccattc ctgcctttct 500  
 ttatttctg gataacttga ttgtcttcta tgcctgtcc tatcttcaac 550  
 cagccatggc tgttatcttc tcaaatttta gcattataac aacagctctt 600  
 ctattcagga tagtgctgaa gaggcgtcta aactggatcc agtgggcttc 650  
 cctcctgact ttatttttgt ctattgtggc ctgactgcc gggactaaaa 700  
 ctttacagca caacttggca ggaactggat ttcatacaga tgcctttttc 750  
 agcccttoca attcctgect tcttttcaga agtgagtgtc ccagaaaaga 800  
 caattgtaca gcaaaggaat ggaacttttc tgaagctaaa tggaaacacca 850  
 cagccagagt ttccagtcac atccgtcttg gcatgggcca tgttcttatt 900  
 atagtccagt gttttatttc ttcaatggct aatatctata atgaaaagat 950  
 actgaaggag gggaaaccagc tcaactgaaag catcttcata cagaacagca 1000  
 aactctattt ctttggcatt ctgtttaatg ggctgactct gggccttcag 1050  
 aggagtaacc gtgacagat taagaactgt ggattttttt atggccacag 1100  
 tgcattttca gtagccctta tttttgtaac tgcattccag ggcctttcag 1150  
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 caggttacca ctgtcattat cacaacagtg tctgtcctgg tctttgactt 1250  
 caggccctcc ctggaatttt tottggaagc cccatcagtc cttctctcta 1300  
 tatttattta taatgccagc aagcctcaag ttccggaata cgcacctagg 1350  
 caagaaagga tccgagatct aagtggcaat ctttgggagc gttccagtgg 1400  
 ggatggagaa gaaactagaaa gacttaccac acccaagagt gatgagtcag 1450  
 atgaagatc tttctaactg gtaccacat agtttgcagc tctottgaac 1500  
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 ccctaaatgg ttccatccaa ggcttagagt acccaagggc taagaaatc 1650  
 taagaactg atacaggagt aacaatatga agaattcatt aatatctcag 1700  
 tacttgataa atcagaaagt tatagtgtca gattattttc cttggccttc 1750  
 aagcttccaa aaaacttgta ataatcatgt tagctatago ttgtatatac 1800  
 acatagagat caatttgcca aatattcaca atcatgtagt tctagtttac 1850  
 atgccaagt cttccctttt taacattata aaagctagggt tgtctcttga 1900  
 attttgaggc cctagagata gtcattttgc aagtaaagag caacgggacc 1950  
 ctttctaaaa acgttggttg aaggacctaa atacctggcc ataccataga 2000  
 tttgggatga tgtagtctgt gctaaatatt ttgctgaaga agcagtttct 2050



Ala	Met	Ala	Val	Ile	Phe	Ser	Asn	Phe	Ser	Ile	Ile	Thr	Thr	Ala	125	130	135
Leu	Leu	Phe	Arg	Ile	Val	Leu	Lys	Arg	Arg	Leu	Asn	Trp	Ile	Gln	140	145	150
Trp	Ala	Ser	Leu	Leu	Thr	Leu	Phe	Leu	Ser	Ile	Val	Ala	Leu	Thr	155	160	165
Ala	Gly	Thr	Lys	Thr	Leu	Gln	His	Asn	Leu	Ala	Gly	Arg	Gly	Phe	170	175	180
His	His	Asp	Ala	Phe	Phe	Ser	Pro	Ser	Asn	Ser	Cys	Leu	Leu	Phe	185	190	195
Arg	Ser	Glu	Cys	Pro	Arg	Lys	Asp	Asn	Cys	Thr	Ala	Lys	Glu	Trp	200	205	210
Thr	Phe	Pro	Glu	Ala	Lys	Trp	Asn	Thr	Thr	Ala	Arg	Val	Phe	Ser	215	220	225
His	Ile	Arg	Leu	Gly	Met	Gly	His	Val	Leu	Ile	Ile	Val	Gln	Cys	230	235	240
Phe	Ile	Ser	Ser	Met	Ala	Asn	Ile	Tyr	Asn	Glu	Lys	Ile	Leu	Lys	245	250	255
Glu	Gly	Asn	Gln	Leu	Thr	Glu	Ser	Ile	Phe	Ile	Gln	Asn	Ser	Lys	260	265	270
Leu	Tyr	Phe	Phe	Gly	Ile	Leu	Phe	Asn	Gly	Leu	Thr	Leu	Gly	Leu	275	280	285
Gln	Arg	Ser	Asn	Arg	Asp	Gln	Ile	Lys	Asn	Cys	Gly	Phe	Phe	Tyr	290	295	300
Gly	His	Ser	Ala	Phe	Ser	Val	Ala	Leu	Ile	Phe	Val	Thr	Ala	Phe	305	310	315
Gln	Gly	Leu	Ser	Val	Ala	Phe	Ile	Leu	Lys	Phe	Leu	Asp	Asn	Met	320	325	330
Phe	His	Val	Leu	Met	Ala	Gln	Val	Thr	Thr	Val	Ile	Ile	Thr	Thr	335	340	345
Val	Ser	Val	Leu	Val	Phe	Asp	Phe	Arg	Pro	Ser	Leu	Glu	Phe	Phe	350	355	360
Leu	Glu	Ala	Pro	Ser	Val	Leu	Leu	Ser	Ile	Phe	Ile	Tyr	Asn	Ala	365	370	375
Ser	Lys	Pro	Gln	Val	Pro	Glu	Tyr	Ala	Pro	Arg	Gln	Glu	Arg	Ile	380	385	390
Arg	Asp	Leu	Ser	Gly	Asn	Leu	Trp	Glu	Arg	Ser	Ser	Gly	Asp	Gly	395	400	405
Glu	Glu	Leu	Glu	Arg	Leu	Thr	Lys	Pro	Lys	Ser	Asp	Glu	Ser	Asp	410	415	420
Glu	Asp	Thr	Phe														

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<211> 755  
<212> DNA  
<213> Homo sapiens

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tactacgggg ctagacagt actgtctcag ctctaggatg tgcgttcttc 200  
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cattctgtgt tataaagaaa gatcatcaaa gtagaattt gaaatatgct 500  
tcctggaagg aattctctga tttcatgaag tgggtccattc ctgcctttct 550  
ttatttcctg gataacttga ttgtcttcta tgtcctgtcc tatcttcaac 600  
cagccatggc tggtatcttc tcaaatTTTA gcattataac aacagctctt 650  
ctattcagga tagtgtctgaa gaggcgtcta aactggatcc agtgggcttc 700  
cctcctgact ttatttttgt ctattgtggc cttgactgcc gggactaaaa 750  
cttta 755

<210> 16  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 16  
ctatacctac tgtagcttct 20

<210> 17  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 17  
tcagagaatt ccttcagga 20

<210> 18  
<211> 40  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 18

acagtgtctgt agtcatcctg taatatgctc cttgtcaaca 40

<210> 19

<211> 2142

<212> DNA

<213> Homo sapiens

<400> 19

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 cgcgcggcgg ccgtggctaa ggctgctacg aagcgagctt gggaggagca 100  
 gcggcctcgg gggcagagga gcaccccgtc taccaggctc caagcggcgt 150  
 ggcccgcggg tcatggccaa aggagaagcg gccgagagcg gctccgcggc 200  
 ggggtcgtcta cccaccagca tcctccaaag cactgaacgc ccggcccagg 250  
 tgaagaaaga accgaaaaag aagaaacaac agttgtctgt ttgcaacaag 300  
 ctttgcctatg cacttggggg agcccccctac caggtgacgg gctgtgccct 350  
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 aacctcatca ttacatatgc ggtagctgtg gcagctggca tcagtggtgc 1350  
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 gtggggccaa gccctggggc tgccactgtg aatatgccaa ggactgatcg 2000  
 ggccatagccc ggaacactaa tgtagaaacc ttttttttac agagcctaata 2050  
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<210> 20  
 <211> 458  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
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 Trp Ala Glu Pro Gly Met Pro Ser Gln Thr Pro Trp Trp Ala Ser  
 20 25 30  
 Ala Ser Ala Asn Pro Pro Gly Pro Ala Trp Val Ala Leu Cys Pro  
 35 40 45  
 Gly Ser Ser Ser Pro Arg Pro Trp Pro Ser Leu Pro Thr Ser Ser  
 50 55 60  
 Ser Gly Ser Cys Pro Thr Ser His Thr Ala Arg Pro Ile Gly Thr  
 65 70 75  
 Cys Phe Ser Ile Ala Ser Leu Lys Gln Trp Ser Arg Val Ser Met  
 80 85 90  
 Phe Pro Thr Arg Leu Ser Pro Cys Ser Ser Ala Thr Glu Gln Thr  
 95 100 105

Glu Arg Asp Ser	Ala Thr Ala Tyr Arg	Met Thr Val Glu Val Leu
110	115	120
Gly Thr Val Leu	Gly Thr Ala Ile Gln	Gly Gln Ile Val Gly Gln
125	130	135
Ala Asp Thr Pro	Cys Phe Gln Asp Phe	Asn Ser Ser Thr Val Ala
140	145	150
Ser Gln Ser Ala	Asn His Thr His Gly	Thr Thr Ser His Arg Glu
155	160	165
Thr Gln Lys Ala	Tyr Leu Leu Ala Ala	Gly Val Ile Val Cys Ile
170	175	180
Tyr Ile Ile Cys	Ala Val Ile Leu Ile	Leu Gly Val Arg Glu Gln
185	190	195
Arg Glu Pro Tyr	Glu Ala Gln Gln Ser	Glu Pro Ile Ala Tyr Phe
200	205	210
Arg Gly Leu Arg	Leu Val Met Ser His	Gly Pro Tyr Ile Lys Leu
215	220	225
Ile Thr Gly Phe	Leu Phe Thr Ser Leu	Ala Phe Met Leu Val Glu
230	235	240
Gly Asn Phe Val	Leu Phe Cys Thr Tyr	Thr Leu Gly Phe Arg Asn
245	250	255
Glu Phe Gln Asn	Leu Leu Ala Ile	Met Leu Ser Ala Thr Leu
260	265	270
Thr Ile Pro Ile	Trp Gln Trp Phe Leu	Thr Arg Phe Gly Lys Lys
275	280	285
Thr Ala Val Tyr	Val Gly Ile Ser Ser	Ala Val Pro Phe Leu Ile
290	295	300
Leu Val Ala Leu	Met Glu Ser Asn Leu	Ile Ile Thr Tyr Ala Val
305	310	315
Ala Val Ala Ala	Gly Ile Ser Val Ala	Ala Ala Phe Leu Leu Pro
320	325	330
Trp Ser Met Leu	Pro Asp Val Ile Asp	Asp Phe His Leu Lys Gln
335	340	345
Pro His Phe His	Gly Thr Glu Pro Ile	Phe Phe Ser Phe Tyr Val
350	355	360
Phe Phe Thr Lys	Phe Ala Ser Gly Val	Ser Leu Gly Ile Ser Thr
365	370	375
Leu Ser Leu Asp	Phe Ala Gly Tyr Gln	Thr Arg Gly Cys Ser Gln
380	385	390
Pro Glu Arg Val	Lys Phe Thr Leu Asn	Met Leu Val Thr Met Ala
395	400	405
Pro Ile Val Leu	Ile Leu Leu Gly Leu	Leu Leu Phe Lys Met Tyr
410	415	420

Pro Ile Asp Glu Glu Arg Arg Arg Gln Asn Lys Lys Ala Leu Gln  
 425 430  
 Ala Leu Arg Asp Glu Ala Ser Ser Ser Gly Cys Ser Glu Thr Asp  
 440 445 450  
 Ser Thr Glu Leu Ala Ser Ile Leu  
 455

<210> 21  
 <211> 571  
 <212> DNA  
 <213> Homo sapiens

<400> 21  
 gggaaacgca aaaggcatac ctgctggcag cgggggtcat tgtctgtatc 50  
 tatataatct gtgctgtcat cctgatcctg ggcgtgctgg agcagagaga 100  
 accctatgaa gccacgacgt ctgagccaat cgccacttc cggggcctac 150  
 ggctggctcat gagccacggc ccatacatca aacttattac tggcttcctc 200  
 ttcaacctct tggttttcat gctggtggag gggaactttg tcttgttttg 250  
 cacctacacc ttgggcttcc gcaatgaatt ccagaatcta ctctgggcca 300  
 tcatgctctc ggccacttta accattocca tctggcagtg gttcttgacc 350  
 cggtttgga agaagacagc tgtatatgtt gggatctcat cagcagtgcc 400  
 atttctcatc ttggtggccc tcatggagag taacctcatc attacatatg 450  
 cggtagctgt ggcagctggc atcagtgtgg cagctgcctt ctactaccc 500  
 tgggtccatgc tgctgatgt cattgacgac ttccatctga agcagcccca 550  
 cttccatgga accgagccca t 571

<210> 22  
 <211> 1173  
 <212> DNA  
 <213> Homo sapiens

<400> 22  
 ggggcttcgg gcgcagcggc cagcgctagt cggctctgga aggatttaca 50  
 aaaggtgcag gtatgagcag gtctgaagac taacattttg tgaagttgta 100  
 aaacagaaaa cctgttagaa atgtggtggt ttacagcaagg cctcagtttc 150  
 cttccttcag ccttgtaat ttgacatct gctgctttoa tattttcata 200  
 cactactgca gtaacactcc accatataga ccggcttcta cttatatca 250  
 gtgacactgg tacagtagct ccagaaaaat gcttatttgg ggcaatgcta 300  
 aatattgcgg cagttttatg cattgctacc atttatgttc gttataagca 350  
 agttcatgct ctgagtcctg aagagaacgt tatcatcaaa ttaacaagg 400  
 ctggccttgt acttgaata ctgagttgtt taggacttcc tattgtggca 450



aacttcaga aaacaaccct tttgtctga catgtaagtg gagctgtgct 500  
tacctttggt atgggctcat tatatatgtt tgttcagacc atccttttct 550  
accaaagtga gcccaaaatc catggcaaac aagtcttctg gatcagactg 600  
ttgttggtta totggtgtgg agtaagtga cttagcatgc tgacttgctc 650  
atcagttttg cacagtggca attttgggac tgatttagaa cagaaactcc 700  
attggaaccc cgaggacaaa ggttatgtgc ttcacatgat cactactgca 750  
gcagaatggt ctatgtcatt ttccttcttt ggttttttcc tgacttacat 800  
tcgtgatttt cagaaaattt ctttaogggt ggaagccaat ttacatggat 850  
taacctctta tgacactgca ccttgcccta ttaacaatga acgaacacgg 900  
ctactttoca gagatatttg atgaaaggat aaaatatttc tgtaatgatt 950  
atgattctca gggattgggg aaaggttcac agaagttgct tattcttctc 1000  
tgaaattttc aaccacttaa tcaaggctga cagtaacact gatgaatgct 1050  
gataatcagg aaacatgaaa gaagccattt gatagattat tctaaaggat 1100  
atcatcaaga agactattaa aaacacctat gcctatactt ttttatctca 1150  
gaaaataaag tcaaagact atg 1173

<210> 23  
<211> 266  
<212> PRT  
<213> Homo sapiens

<400> 23  
Met Trp Trp Phe Gln Gln Gly Leu Ser Phe Leu Pro Ser Ala Leu  
1 5 10 15  
Val Ile Trp Thr Ser Ala Ala Phe Ile Phe Ser Tyr Ile Thr Ala  
20 25 30  
Val Thr Leu His His Ile Asp Pro Ala Leu Pro Tyr Ile Ser Asp  
35 40 45  
Thr Gly Thr Val Ala Pro Glu Lys Cys Leu Phe Gly Ala Met Leu  
50 55 60  
Asn Ile Ala Ala Val Leu Cys Ile Ala Thr Ile Tyr Val Arg Tyr  
65 70 75  
Lys Gln Val His Ala Leu Ser Pro Glu Glu Asn Val Ile Ile Lys  
80 85 90  
Leu Asn Lys Ala Gly Leu Val Leu Gly Ile Leu Ser Cys Leu Gly  
95 100 105  
Leu Ser Ile Val Ala Asn Phe Gln Lys Thr Thr Leu Phe Ala Ala  
110 115 120  
His Val Ser Gly Ala Val Leu Thr Phe Gly Met Gly Ser Leu Tyr  
125 130 135

Met	Phe	Val	Gln	Thr	Ile	Leu	Ser	Tyr	Gln	Met	Gln	Pro	Lys	Ile
				140					145					150
His	Gly	Lys	Gln	Val	Phe	Trp	Ile	Arg	Leu	Leu	Leu	Val	Ile	Trp
				155					160					165
Cys	Gly	Val	Ser	Ala	Leu	Ser	Met	Leu	Thr	Cys	Ser	Ser	Val	Leu
				170					175					180
His	Ser	Gly	Asn	Phe	Gly	Thr	Asp	Leu	Glu	Gln	Lys	Leu	His	Trp
				185					190					195
Asn	Pro	Glu	Asp	Lys	Gly	Tyr	Val	Leu	His	Met	Ile	Thr	Thr	Ala
				200					205					210
Ala	Glu	Trp	Ser	Met	Ser	Phe	Ser	Phe	Phe	Gly	Phe	Phe	Leu	Thr
				215					220					225
Tyr	Ile	Arg	Asp	Phe	Gln	Lys	Ile	Ser	Leu	Arg	Val	Glu	Ala	Asn
				230					235					240
Leu	His	Gly	Leu	Thr	Leu	Tyr	Asp	Thr	Ala	Pro	Cys	Pro	Ile	Asn
				245					250					255
Asn	Glu	Arg	Thr	Arg	Leu	Leu	Ser	Arg	Asp	Ile				
				260					265					

<210> 24  
 <211> 485  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 14, 484  
 <223> unknown base

<400> 24  
 cggaagcttg ggcngcgcca gcggccagcg ctagtctgtc tggttaagtgc 50  
 ctgatgccga gttccgtctc tcgggtcttt tctgggtccc aggcaaaagcg 100  
 gagcggagat cctcaaacgg cctagtgttt cgcgcttcog gagaaaatca 150  
 gcggtctaat taattcctct ggtttgttga agcagttacc aagaatcttc 200  
 aaccctttcc cacaaaagct aattgagtac acgttctctg tgagtacacg 250  
 ttctgttga ttacaaaag gtgcaggtat gagcaggtct gaagactaac 300  
 attttgtgaa gttgtaaaac agaaaacctg ttagaaatgt ggtgtgttca 350  
 gcaaggccctc agtttccttc cttcagccct tgtaatttgg acatctgctg 400  
 ctttcattatt ttcatacatt actgcagtaa cactccacca tatagacccg 450  
 gotttacctt atacagtga cactgggtaca gtanc 485

<210> 25  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 25  
acctgttaga aatgtggtgg ttccagcaag gcctcagttt 40

<210> 26  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 26  
ggagatagct gctatgggtt cttcaggcac aacttaacat gggaag 46

<210> 27  
<211> 1399  
<212> DNA  
<213> Homo sapiens

<400> 27  
cccacgctc cgcccgcgc tgcgtcccg agtgcaagt agcttctcgg 50  
ctgccccgcg ggccgggggt cggagccgac atgcgccgc ttctcggcct 100  
ccttctggtc ttccgccggt gcaccttcgc cttgtacttg ctgtcgagcg 150  
gactgcctcg cgggcggaga ctgggctcca ccgaggaggc tggaggcagg 200  
tcgctgtggt tccctccga cctggcagag ctgcgggagc tctctgaggt 250  
ccttcgagag taccggaagg agcaccaggc ctacgtgttc ctgctcttct 300  
gcggcgcccta cctctacaaa cagggtcttg ccattccccg ctccagcttc 350  
ctgaatgttt tagctggtgc cttgtttggg ccattggctgg ggctctctgt 400  
gtgctgtgtg ttgaacctcg tgggtgccac atgctgtac ctgctctcca 450  
gtatttttgg caaacagttg gtggtgtcct actttcctga taaagtggcc 500  
ctgctgcaga gaaagggtga ggagaacaga aacagcttgt ttttttcttt 550  
attgtttttg agacttttcc ccattgacacc aaactgggtc ttgaacctct 600  
cgcccccaat tctgaacatt cccatcgtgc agttcttctt ctcagttctt 650  
atcggtttga tcccatataa tttcatctgt gtgcagacag ggtccatctt 700  
gtcaacccta acctctcttg atgctctttt ctccctggac actgtcttta 750  
agctgtttgc cattgccatg gtggcattaa ttccctggaac cctcattaaa 800  
aaatttagtc agaaacatct gcaattgaat gaaacaagta ctgctaatac 850  
tatacacagt agaaaagaca catgatctgg attttctgtt tgccacatcc 900  
ctggactcag ttgcttattt gtgtaatgga tgggtgcctc taaagccctc 950  
cattgttttt gattgccttc tataggtgat gtggacactg tgcattcaatg 1000

tgcagtgctc tttcagaaag gacactctgc tcttgaaggt gtattacatc 1050  
 aggttttcaa accagccctg gtgtagcaga cactgcaaca gatgcctcct 1100  
 agaaaatgct gtttgtggcc gggcgcggtg gtcacgcct gtaatccacc 1150  
 cactttggga ggccgaggcc ggtgattcac aaggtcagga gttcaagacc 1200  
 agcctggcca agatgggtgaa atcctgtctc taataaaaat acaaaaatta 1250  
 gccaggcgtg gtggcaggca cctgtaatcc cagctactcg ggaggctgag 1300  
 gcaggagaat tgcttgaacc aaggtggcag aggttgacgt aagccaagat 1350  
 cacaccactg cactccagcc tgggtgatag agtgagacac tgtcttgac 1399

<210> 28  
 <211> 264  
 <212> PRT  
 <213> Homo sapiens

<400> 28  
 Met Arg Pro Leu Leu Gly Leu Leu Leu Val Phe Ala Gly Cys Thr 15  
 1 5 10  
 Phe Ala Leu Tyr Leu Leu Ser Thr Arg Leu Pro Arg Gly Arg Arg 30  
 20 25  
 Leu Gly Ser Thr Glu Glu Ala Gly Gly Arg Ser Leu Trp Phe Pro 45  
 35 40  
 Ser Asp Leu Ala Glu Leu Arg Glu Leu Ser Glu Val Leu Arg Glu 60  
 50 55  
 Tyr Arg Lys Glu His Gln Ala Tyr Val Phe Leu Leu Phe Cys Gly 75  
 65 70  
 Ala Tyr Leu Tyr Lys Gln Gly Phe Ala Ile Pro Gly Ser Ser Phe 90  
 80 85  
 Leu Asn Val Leu Ala Gly Ala Leu Phe Gly Pro Trp Leu Gly Leu 105  
 95 100  
 Leu Leu Cys Cys Val Leu Thr Ser Val Gly Ala Thr Cys Cys Tyr 120  
 110 115  
 Leu Leu Ser Ser Ile Phe Gly Lys Gln Leu Val Val Ser Tyr Phe 135  
 125 130  
 Pro Asp Lys Val Ala Leu Leu Gln Arg Lys Val Glu Glu Asn Arg 150  
 140 145  
 Asn Ser Leu Phe Phe Phe Leu Leu Phe Leu Arg Leu Phe Pro Met 165  
 155 160  
 Thr Pro Asn Trp Phe Leu Asn Leu Ser Ala Pro Ile Leu Asn Ile 180  
 170 175  
 Pro Ile Val Gln Phe Phe Phe Ser Val Leu Ile Gly Leu Ile Pro 195  
 185 190  
 Tyr Asn Phe Ile Cys Val Gln Thr Gly Ser Ile Leu Ser Thr Leu 210  
 200 205

Thr Ser Leu Asp Ala Leu Phe Ser Trp Asp Thr Val Phe Lys Leu  
 215 220  
 Leu Ala Ile Ala Met Val Ala Leu Ile Pro Gly Thr Leu Ile Lys  
 230 235 240  
 Lys Phe Ser Gln Lys His Leu Gln Leu Asn Glu Thr Ser Thr Ala  
 245 250 255  
 Asn His Ile His Ser Arg Lys Asp Thr  
 260

<210> 29  
 <211> 1292  
 <212> DNA  
 <213> Homo sapiens

<400> 29  
 ccgaggcggg aggagcccga gggggcgaga gccccgcatg aatcattgta 50  
 gtcaatcatt ttccagtctc cagccgctca gttgtgatca agggacacgt 100  
 ggtttccgaa ctgccagctc agaataggaa aataacttgg gattttatat 150  
 tgggaagacat ggatcttgct gccaacgaga tcagcattta tgacaaactt 200  
 tcagagactg ttgatttggg gagacagacc ggccatcagt gtggcatgctc 250  
 agagaaggca attgaaaaat ttatcagaca gctgctggaa aagaatgaac 300  
 ctccagagacc cccccgcag tatcctctcc ttatagttgt gtataaggtt 350  
 ctgcgaacct tgggattaat cttgctcact gcctactttg tgattcaacc 400  
 tttcagccca ttagcacctg agccagtgct ttctggagct cacacctggc 450  
 gctcactcat ccatcacatt aggtgatgt ccttgcccat tgccaagaag 500  
 tacatgtcag aaaataaggg agttcctctg catgggggtg atgaagacag 550  
 accctttcca gactttgacc cctggtggac aaacgactgt gaggagaatg 600  
 agtcagagcc cattctgcc aactgcactg gctgtgocca gaaacacctg 650  
 aaggtgatgc tcctggaaga cgccccagg aaatttgaga ggtccatcc 700  
 actggtgatc aagacgggaa agccccgtt ggaggaagag attcagcatt 750  
 ttttgtgcca gtacctgag gcgacagaag gcttctctga agggtttttc 800  
 gccaaagtgt ggcgctgctt tcctgagcgg tggttcccat ttccattacc 850  
 atggaggaga cctctgaaca gatcacaaat gttacgtgag ctttttctcg 900  
 ttttcaactc cctgccattt ccaaaagatg cctctttaa caagtgtcc 950  
 tttcttcacc cagaacctgt tgtggggagt aagatgcata agatgctga 1000  
 cctatttatc attggcagcg gtgaggccat gttgcagctc atccctccct 1050  
 tccagtgcg aagacattgt cagtctgtgg ccatgccaat agagccaggg 1100  
 gatatcggt atgtcgacac caccactgg aaggtctacg ttatagccag 1150

aggggtccag cctttgtgca tctgcatgg aaccgctttc tcagaactgt 1200  
 aggaaataga actgtgcaca ggaacagctt ccagagccga aaaccaggtt 1250  
 gaaaggggaa aaataaaaac aaaaacgatg aaactgcaaa aa 1292

<210> 30  
 <211> 347  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Met Asp Leu Ala Ala Asn Glu Ile Ser Ile Tyr Asp Lys Leu Ser 15  
 1 5 10  
 Glu Thr Val Asp Leu Val Arg Gln Thr Gly His Gln Cys Gly Met 30  
 20 25  
 Ser Glu Lys Ala Ile Glu Lys Phe Ile Arg Gln Leu Leu Glu Lys 45  
 35 40  
 Asn Glu Pro Gln Arg Pro Pro Pro Gln Tyr Pro Leu Leu Ile Val 60  
 50 55  
 Val Tyr Lys Val Leu Ala Thr Leu Gly Leu Ile Leu Leu Thr Ala 75  
 65 70  
 Tyr Phe Val Ile Gln Pro Phe Ser Pro Leu Ala Pro Glu Pro Val 90  
 80 85  
 Leu Ser Gly Ala His Thr Trp Arg Ser Leu Ile His His Ile Arg 105  
 95 100  
 Leu Met Ser Leu Pro Ile Ala Lys Lys Tyr Met Ser Glu Asn Lys 120  
 110 115  
 Gly Val Pro Leu His Gly Gly Asp Glu Asp Arg Pro Phe Pro Asp 135  
 125 130  
 Phe Asp Pro Trp Trp Thr Asn Asp Cys Glu Gln Asn Glu Ser Glu 150  
 140 145  
 Pro Ile Pro Ala Asn Cys Thr Gly Cys Ala Gln Lys His Leu Lys 165  
 155 160  
 Val Met Leu Leu Glu Asp Ala Pro Arg Lys Phe Glu Arg Leu His 180  
 170 175  
 Pro Leu Val Ile Lys Thr Gly Lys Pro Leu Leu Glu Glu Glu Ile 195  
 185 190  
 Gln His Phe Leu Cys Gln Tyr Pro Glu Ala Thr Glu Gly Phe Ser 210  
 200 205  
 Glu Gly Phe Phe Ala Lys Trp Trp Arg Cys Phe Pro Glu Arg Trp 225  
 215 220  
 Phe Pro Phe Pro Tyr Pro Trp Arg Arg Pro Leu Asn Arg Ser Gln 240  
 230 235  
 Met Leu Arg Glu Leu Phe Pro Val Phe Thr His Leu Pro Phe Pro 255  
 245 250

Lys Asp Ala Ser Leu Asn Lys Cys Ser Phe Leu His Pro Glu Pro  
 260 265 270  
 Val Val Gly Ser Lys Met His Lys Met Pro Asp Leu Phe Ile Ile  
 275 280 285  
 Gly Ser Gly Glu Ala Met Leu Gln Leu Ile Pro Pro Phe Gln Cys  
 290 295 300  
 Arg Arg His Cys Gln Ser Val Ala Met Pro Ile Glu Pro Gly Asp  
 305 310 315  
 Ile Gly Tyr Val Asp Thr Thr His Trp Lys Val Tyr Val Ile Ala  
 320 325 330  
 Arg Gly Val Gln Pro Leu Val Ile Cys Asp Gly Thr Ala Phe Ser  
 335 340 345

Glu Leu

<210> 31  
 <211> 478  
 <212> DNA  
 <213> Homo sapiens

<400> 31  
 ccacgggtgc cgttcttcgc cggcggcag ctgtcccca ggccgggagga 50  
 gcccgagggg cgcgagcccc gcatgaatca ttgtagtcaa tcattttcca 100  
 gttctcagcc gttcagttgt gatcaaggga cacgtggttt ccgaactgcc 150  
 agctcagaat aggaaaataa cttgggattt tatattgaa gacatggatc 200  
 ttgctgcaa cgagatcagc atttatgaca aactttcaga gactgttgat 250  
 ttggtgagac agaccggcca tcagtgtggc atgtcagaga aggcaattga 300  
 aaaatttadc agacagctgc tggaaaagaa tgaacctcag agaccccccc 350  
 cgcagtatcc tctccttata gttgtgtata aggttctcgc aaccttgga 400  
 ttaattctgc tcaetgecta ctttgtgatt caacctttca gccoattagc 450  
 acctgagcca gtgctttgtg gagctcac 478

<210> 32  
 <211> 3531  
 <212> DNA  
 <213> Homo sapiens

<400> 32  
 cccacgcgtc cgcccacgcg tccggctgaa cacctcttct ttggagtcag 50  
 ccactgatga ggcagggtcc ccacttgtag ctgcagcagc tgacagcagct 100  
 gcagagcgct gctcctggct ggtgccactg gtgcgcacgc tgctagaccg 150  
 tgccctatgag ccgctggggc tgcagtgagg actgcctcc ctgccacca 200  
 ccaatggcag cccacacctt tttgaagact tccaggcttt ttgtgccaca 250

ccgaatggc gccacttoat cgacaaacag gtacagccaa ccatgtccca 300  
 gttcgaaatg gacacgtatg ctaagagcca cgaccttatg tcaggtttct 350  
 ggaatgcctg ctatgacatg cttatgagca gtgggcagcg gcgccagtgg 400  
 gagcgcgccc agagtgcgctg ggccttcag gagctggtgc tggaaacctgc 450  
 gcagaggcgg gcgcgcctgg aggggctacg ctacacggca gtgctgaagc 500  
 agcaggcaac gcagcaactcc atggccctgc tgcaactggg ggcgctgtgg 550  
 cgccagctcg ccagcccatg tggggcctgg gcgctgaggg acactcccat 600  
 cccccgctgg aaactgtcca gcgcgagac atattcacgc atgctgtctga 650  
 agctggtgcc caaccatcac ttcgacctc acctggaagc cagcgctctc 700  
 cgagacaatc tgggtgaggt tccccgaca cccaccgagg aggcctcact 750  
 gcctctgcca gtgaccaaag aggccaaagt gagcacccca cccgagtgcg 800  
 tgcaggagga ccagctcgcc gaggacgagc tggtctgagct ggagacccc 850  
 atggaggcag cagaactgga tgagcagcgt gagaagctgg tgctgtcgcc 900  
 cgagtgccag ctggtgacgg tagtggccgt ggtcccaggg ctgctgaggc 950  
 tcaccacaca gaatgtatac ttctacgatg gcagcactga gcgcgtggaa 1000  
 accgaggagg gcacggcta tgattccgg cggccactgg ccagctgagc 1050  
 tgaggtccac ctgcggcgtt tcaacctgcg ccgttcagca cttgagctct 1100  
 tctttatoga tcaggccaac tacttcctca acttcccatg caaggtgggc 1150  
 acgacccagc tctcatctcc tagccagact ccgagacccc agcctggccc 1200  
 catccccccc cataccagc tacggaacca ggtgtactcg tggctcctgc 1250  
 gcctacggcc cccctctcaa ggctacctaa gcagccgctc cccccaggag 1300  
 atgctgcgtg cctcaggcct taccagaaa tgggtacagc gtgagatata 1350  
 caacttcgag tacttgatgc aactcaacac cattgogggg cggacotaca 1400  
 atgacctgtc tcagtacct gtgttcccc gggtcctgca ggactacgtg 1450  
 tccccacccc tggacctcag caaccagcc gtcttcggg acctgtctaa 1500  
 gcccatcggt gtggtgaacc ccaagcatgc ccagctcgtg agggagaagt 1550  
 atgaaagctt tgaggacca gcagggacca ttgacaagtt ccactatggc 1600  
 acccaotact ccaatgcagc aggcgtgatg cactacctca tccgctgga 1650  
 gcccttcacc tccctgcacg tccagctgca aagtggccgc tttgactgct 1700  
 ccgacggcca gttccactcg gtggcgagc cctggcaggc acgcctggag 1750  
 agccctgcg atgtgaagga gctcatccc gaattctct acttctctga 1800  
 cttcctggag aaccagaacg gttttgacct gggctgtctc cagctgacca 1850



acgagaaggt aggcgatgtg gtgctacccc cgtgggccag ctctcctgag 1900  
gacttcattcc agcagcaccg ccaggctctg gagtcggagt atgtgtctgc 1950  
acacctacac gagtggatcg acctcatctt tggtacaag cagcgggggc 2000  
cagccgccga ggagggccctc aatgtcttct attactgcac ctatgagggg 2050  
gctgtagacc tggaccatgt gacagatgag cgggaacgga aggtctctga 2100  
gggcattatc agcaactttg ggcagactcc ctgtcagctg ctgaaggagc 2150  
cacatccaac tcggctctca gctgaggaag cagcccatcg cttgcacgc 2200  
ctggacacta actcacctag catcttccag cacctggacg aactcaaggc 2250  
attcttcgca gaggtgactg tgagtgccag tgggctgctg ggcaaccaca 2300  
gctggttgcc ctatgaccgc aacataagca actacttcag cttcagcaaa 2350  
gacccaccca tgggcagcca caagacgcag cgaactgtga ttggcccgctg 2400  
ggtgccaggc agtggtgtga gtggacaagc actggcagtg gccccggatg 2450  
gaaagctgct attcagcggg ggccactggg atggcagcct gcgggtgact 2500  
gcactacccc gtggcaagct gttgagccag ctgagctgcc acctgtatgt 2550  
agtaacctgc cttgactcgg acacctgtgg catctacctc atctcaggct 2600  
cccgggacac cacgtgcatg gtgtggcggc tcctgcatca ggggtgtctg 2650  
tcagtaggcc tggcaccaaa gcctgtgcag gtctgtatg ggcattggggc 2700  
tgacgtgagc tgtgtggcca tcagcactga acttgacatg gctgtgtctg 2750  
gatctgagga tggaaactgt atcatacaca ctgtacgccg cggacagttt 2800  
gtagcggcac tacggcctct ggtgcccaca ttccctggac ctattttcca 2850  
cctggcattg ggggtccgaag gccagattgt ggtacagagc tcagcgtggg 2900  
aacgtccttg ggcccaggtc acctactcct tgcacctgta ttcagtcaat 2950  
gggaagtgtg gggcttcaact gcccttgcca gagcagccta cagccctgac 3000  
ggtgacagag gactttgtgt tgctgggcac cgcacagtgc gccctgcaca 3050  
tcctccaact aaacacactg ctccccgccg cgctccctt gcccatgaag 3100  
gtggccatcc gcagcgtggc cgtgaccaag gagcgagcc acgtgctggt 3150  
gggcctggag gatggcaagc tcactgtggt ggtcgcgggg cagccctctg 3200  
agggtgcgag cagccagttc gcgcggaagc tgtggcggtc ctgcgcggc 3250  
atctcccagg tgtctctggg agagacggaa tacaacccta ctgaggcgcg 3300  
ctgaacctgg ccagtcgggc tgctcgggcc ccgcccccg caggcctggc 3350  
ccgggaggcc ccgccagaa gtcggcgga acaccccggt gtgggcagcc 3400  
cagggggtga gcggggccca cctgcccag ctgagggtt ggccggcgat 3450

gttacccct cagggattgg cgggcggaag tcccgccct cgccggctga 3500  
 ggggcgccc tgaggccag cactggcgtc t 3531

<210> 33  
 <211> 1003  
 <212> PRT  
 <213> Homo sapiens

<400> 33  
 Met Ser Gln Phe Glu Met Asp Thr Tyr Ala Lys Ser His Asp Leu  
 1 5 10 15  
 Met Ser Gly Phe Trp Asn Ala Cys Tyr Asp Met Leu Met Ser Ser  
 20 25 30  
 Gly Gln Arg Arg Gln Trp Glu Arg Ala Gln Ser Arg Arg Ala Phe  
 35 40 45  
 Gln Glu Leu Val Leu Glu Pro Ala Gln Arg Ala Arg Leu Glu  
 50 55 60  
 Gly Leu Arg Tyr Thr Ala Val Leu Lys Gln Gln Ala Thr Gln His  
 65 70 75  
 Ser Met Ala Leu Leu His Trp Gly Ala Leu Trp Arg Gln Leu Ala  
 80 85 90  
 Ser Pro Cys Gly Ala Trp Ala Leu Arg Asp Thr Pro Ile Pro Arg  
 95 100 105  
 Trp Lys Leu Ser Ser Ala Glu Thr Tyr Ser Arg Met Arg Leu Lys  
 110 115 120  
 Leu Val Pro Asn His His Phe Asp Pro His Leu Glu Ala Ser Ala  
 125 130 135  
 Leu Arg Asp Asn Leu Gly Glu Val Pro Leu Thr Pro Thr Glu Glu  
 140 145 150  
 Ala Ser Leu Pro Leu Ala Val Thr Lys Glu Ala Lys Val Ser Thr  
 155 160 165  
 Pro Pro Glu Leu Leu Gln Glu Asp Gln Leu Gly Glu Asp Glu Leu  
 170 175 180  
 Ala Glu Leu Glu Thr Pro Met Glu Ala Ala Glu Leu Asp Glu Gln  
 185 190 195  
 Arg Glu Lys Leu Val Leu Ser Ala Glu Cys Gln Leu Val Thr Val  
 200 205 210  
 Val Ala Val Val Pro Gly Leu Leu Glu Val Thr Thr Gln Asn Val  
 215 220 225  
 Tyr Phe Tyr Asp Gly Ser Thr Glu Arg Val Glu Thr Glu Glu Gly  
 230 235 240  
 Ile Gly Tyr Asp Phe Arg Arg Pro Leu Ala Gln Leu Arg Glu Val  
 245 250 255  
 His Leu Arg Arg Phe Asn Leu Arg Arg Ser Ala Leu Glu Leu Phe  
 260 265 270

Phe	Ile	Asp	Gln	Ala	Asn	Tyr	Phe	Leu	Asn	Phe	Pro	Cys	Lys	Val	275	280	285
Gly	Thr	Thr	Pro	Val	Ser	Ser	Pro	Ser	Gln	Thr	Pro	Arg	Pro	Gln	290	295	300
Pro	Gly	Pro	Ile	Pro	Pro	His	Thr	Gln	Val	Arg	Asn	Gln	Val	Tyr	305	310	315
Ser	Trp	Leu	Leu	Arg	Leu	Arg	Pro	Pro	Ser	Gln	Gly	Tyr	Leu	Ser	320	325	330
Ser	Arg	Ser	Pro	Gln	Glu	Met	Leu	Arg	Ala	Ser	Gly	Leu	Thr	Gln	335	340	345
Lys	Trp	Val	Gln	Arg	Glu	Ile	Ser	Asn	Phe	Glu	Tyr	Leu	Met	Gln	350	355	360
Leu	Asn	Thr	Ile	Ala	Gly	Arg	Thr	Tyr	Asn	Asp	Leu	Ser	Gln	Tyr	365	370	375
Pro	Val	Phe	Pro	Trp	Val	Leu	Gln	Asp	Tyr	Val	Ser	Pro	Thr	Leu	380	385	390
Asp	Leu	Ser	Asn	Pro	Ala	Val	Phe	Arg	Asp	Leu	Ser	Lys	Pro	Ile	395	400	405
Gly	Val	Val	Asn	Pro	Lys	His	Ala	Gln	Leu	Val	Arg	Glu	Lys	Tyr	410	415	420
Glu	Ser	Phe	Glu	Asp	Pro	Ala	Gly	Thr	Ile	Asp	Lys	Phe	His	Tyr	425	430	435
Gly	Thr	His	Tyr	Ser	Asn	Ala	Ala	Gly	Val	Met	His	Tyr	Leu	Ile	440	445	450
Arg	Val	Glu	Pro	Phe	Thr	Ser	Leu	His	Val	Gln	Leu	Gln	Ser	Gly	455	460	465
Arg	Phe	Asp	Cys	Ser	Asp	Arg	Gln	Phe	His	Ser	Val	Ala	Ala	Ala	470	475	480
Trp	Gln	Ala	Arg	Glu	Glu	Ser	Pro	Ala	Asp	Val	Lys	Glu	Leu	Ile	485	490	495
Pro	Glu	Phe	Phe	Tyr	Phe	Pro	Asp	Phe	Leu	Glu	Asn	Gln	Asn	Gly	500	505	510
Phe	Asp	Leu	Gly	Cys	Leu	Gln	Leu	Thr	Asn	Glu	Lys	Val	Gly	Asp	515	520	525
Val	Val	Leu	Pro	Pro	Trp	Ala	Ser	Ser	Pro	Glu	Asp	Phe	Ile	Gln	530	535	540
Gln	His	Arg	Gln	Ala	Leu	Glu	Ser	Glu	Tyr	Val	Ser	Ala	His	Leu	545	550	555
His	Glu	Trp	Ile	Asp	Leu	Ile	Phe	Gly	Tyr	Lys	Gln	Arg	Gly	Pro	560	565	570
Ala	Ala	Glu	Glu	Ala	Leu	Asn	Val	Phe	Tyr	Tyr	Cys	Thr	Tyr	Glu	575	580	585

Gly	Ala	Val	Asp	Leu	Asp	His	Val	Thr	Asp	Glu	Arg	Glu	Arg	Lys
				590					595					600
Ala	Leu	Glu	Gly	Ile	Ile	Ser	Asn	Phe	Gly	Gln	Thr	Pro	Cys	Gln
				605					610					615
Leu	Leu	Lys	Glu	Pro	His	Pro	Thr	Arg	Leu	Ser	Ala	Glu	Glu	Ala
				620					625					630
Ala	His	Arg	Leu	Ala	Arg	Leu	Asp	Thr	Asn	Ser	Pro	Ser	Ile	Phe
				635					640					645
Gln	His	Leu	Asp	Glu	Leu	Lys	Ala	Phe	Phe	Ala	Glu	Val	Thr	Val
				650					655					660
Ser	Ala	Ser	Gly	Leu	Leu	Gly	Thr	His	Ser	Trp	Leu	Pro	Tyr	Asp
				665					670					675
Arg	Asn	Ile	Ser	Asn	Tyr	Phe	Ser	Phe	Ser	Lys	Asp	Pro	Thr	Met
				680					685					690
Gly	Ser	His	Lys	Thr	Gln	Arg	Leu	Leu	Ser	Gly	Pro	Trp	Val	Pro
				695					700					705
Gly	Ser	Gly	Val	Ser	Gly	Gln	Ala	Leu	Ala	Val	Ala	Pro	Asp	Gly
				710					715					720
Lys	Leu	Leu	Phe	Ser	Gly	Gly	His	Trp	Asp	Gly	Ser	Leu	Arg	Val
				725					730					735
Thr	Ala	Leu	Pro	Arg	Gly	Lys	Leu	Leu	Ser	Gln	Leu	Ser	Cys	His
				740					745					750
Leu	Asp	Val	Val	Thr	Cys	Leu	Ala	Leu	Asp	Thr	Cys	Gly	Ile	Tyr
				755					760					765
Leu	Ile	Ser	Gly	Ser	Arg	Asp	Thr	Thr	Cys	Met	Val	Trp	Arg	Leu
				770					775					780
Leu	His	Gln	Gly	Gly	Leu	Ser	Val	Gly	Leu	Ala	Pro	Lys	Pro	Val
				785					790					795
Gln	Val	Leu	Tyr	Gly	His	Gly	Ala	Ala	Val	Ser	Cys	Val	Ala	Ile
				800					805					810
Ser	Thr	Glu	Leu	Asp	Met	Ala	Val	Ser	Gly	Ser	Glu	Asp	Gly	Thr
				815					820					825
Val	Ile	Ile	His	Thr	Val	Arg	Arg	Gly	Gln	Phe	Val	Ala	Ala	Leu
				830					835					840
Arg	Pro	Leu	Gly	Ala	Thr	Phe	Pro	Gly	Pro	Ile	Phe	His	Leu	Ala
				845					850					855
Leu	Gly	Ser	Glu	Gly	Gln	Ile	Val	Val	Gln	Ser	Ser	Ala	Trp	Glu
				860					865					870
Arg	Pro	Gly	Ala	Gln	Val	Thr	Tyr	Ser	Leu	His	Leu	Tyr	Ser	Val
				875					880					885
Asn	Gly	Lys	Leu	Arg	Ala	Ser	Leu	Pro	Leu	Ala	Glu	Gln	Pro	Thr
				890					895					900

Ala Leu Thr Val Thr Glu Asp Phe Val Leu Leu Gly Thr Ala Gln  
905 910 915

Cys Ala Leu His Ile Leu Gln Leu Asn Thr Leu Leu Pro Ala Ala  
920 925 930

Pro Pro Leu Pro Met Lys Val Ala Ile Arg Ser Val Ala Val Thr  
935 940 945

Lys Glu Arg Ser His Val Leu Val Gly Leu Glu Asp Gly Lys Leu  
950 955 960

Ile Val Val Val Ala Gly Gln Pro Ser Glu Val Arg Ser Ser Gln  
965 970 975

Phe Ala Arg Lys Leu Trp Arg Ser Ser Arg Arg Ile Ser Gln Val  
980 985 990

Ser Ser Gly Glu Thr Glu Tyr Asn Pro Thr Glu Ala Arg  
995 1000

<210> 34

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 34

tgactgcact acccctgtgc aagctgttga gccagctcag ctg 43

<210> 35

<211> 1395

<212> DNA

<213> Homo sapiens

<400> 35

cggacgcgtg ggcggacgcg tgggggctgt gagaaagtgc caataaatac 50

atcatgcaac cccacggccc accttgtgaa ctctctgtgc ccagggtctga 100

tgtgcgtctt ccagggtctac tcatccaaag gcctaatacca acgttctgtc 150

ttcaatctgc aaatctatgg ggtcctgggg ctcttcttga cccttaactg 200

ggtactggcc ctggggcaat gcgtcctcgc tggagccttt gcctccttct 250

actgggcctt ccacaagccc caggacatcc ctaccttccc cttaatctct 300

gccttcaccc gcacactccg ttaccacact gggtcattgg catttggagc 350

cctcatctctg acccttgtgc agatagcccc ggtcatcttg gagtatattg 400

accacaagct cagaggagtg cagaaccctg tagcccgtcg catcatgtgc 450

tgtttcaagt gctgcctctg gtgtctggaa aaatttatca agttcctaaa 500

cgcgaatgca tacatcatga tcgccatcta cggaagaat ttctgtgtct 550

cagccaaaaa tgcgttcatg ctactcatgc gaaacattgt cagggtgtgc 600

gtcctggaca aagtcacaga cctgctgctg ttctttggga agctgctggt 650

ggtcggaggc gtgggggtcc tgtccttctt ttttttctcc ggtcgcaccc 700  
 cggggctggg taaagacttt aagagccccc acctcaacta ttactggctg 750  
 cccatcatga cctccatcct gggggcctat gtcacgcga cggtattctt 800  
 cagcgttttc ggcattgtgt tggacacgct ctctctctgc ttcttggaa 850  
 acctggagcg gaacaacgcg tccctggacc ggcctacta catgtccaag 900  
 agccttctaa agattctggg caagaagaac gaggcgcccc cggaacaaa 950  
 gaagaggaag aagtgcacgc tccggccctg atccaggact gcacccacc 1000  
 cccaccgtcc agccatccaa cctcaactcg ccttacaggt ctccattttg 1050  
 tggtaaaaaa aggttttagg ccaggcgccg tggctcacgc ctgtaatcca 1100  
 acactttgag aggctgaggc gggcgcatca cctgagtcag gagttcgaga 1150  
 ccagcctggc caacatgggt aaacctccgt ctctattaaa aatacaaaaa 1200  
 ttgaccgaga gtgttgcat gcacctgtca tccagctac tcggagggct 1250  
 gaggcaggag aatcgcttga acccgggagg cagaggttgc agtgagccga 1300  
 gatcgcgcca ctgcactcca acctgggtga cagactctgt ctccaaaaca 1350  
 aaaaaacaa aaaaaaagat tttattaaag atattttgtt aactc 1395

<210> 36  
 <211> 321  
 <212> PRT  
 <213> Homo sapiens

<400> 36  
 Arg Thr Arg Gly Arg Thr Arg Gly Gly Cys Glu Lys Val Pro Ile  
 1 5 10 15  
 Asn Thr Ser Cys Asn Pro Thr Ala His Leu Val Asn Ser Ser Cys  
 20 25 30  
 Pro Gly Leu Met Cys Val Phe Gln Gly Tyr Ser Ser Lys Gly Leu  
 35 40 45  
 Ile Gln Arg Ser Val Phe Asn Leu Gln Ile Tyr Gly Val Leu Gly  
 50 55 60  
 Leu Phe Trp Thr Leu Asn Trp Val Leu Ala Leu Gly Gln Cys Val  
 65 70 75  
 Leu Ala Gly Ala Phe Ala Ser Phe Tyr Trp Ala Phe His Lys Pro  
 80 85 90  
 Gln Asp Ile Pro Thr Phe Pro Leu Ile Ser Ala Phe Ile Arg Thr  
 95 100 105  
 Leu Arg Tyr His Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile Leu  
 110 115 120  
 Thr Leu Val Gln Ile Ala Arg Val Ile Leu Glu Tyr Ile Asp His  
 125 130 135



<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 39  
ggcctaattcc aacgtttctgt cttcaatctg caaatctatg gggctctggg 50

<210> 40  
<211> 1365  
<212> DNA  
<213> Homo sapiens

<400> 40  
gagtcttgac cgccgcggg ctcttggtac ctcagcgga gcgccaggcg 50  
tccggccgcc gtggctatgt tcgtgtccga ttccgcaaa gagttctacg 100  
agggtgtcca gagccagagg gtccctctct tcgtggcctc ggacgtggat 150  
gctctgtgtg cgtgcaagat ccttcaggcc ttgttccagt gtgaccacgt 200  
gcaatatacg ctggttccag ttctcgggtg gcaagaactt gaaactgcac 250  
ttcttgagca taaagaacag ttctattatt ttattctcat aaactgtgga 300  
gctaatttag acctattgga tattcttcaa cctgatgaag acatatatt 350  
ctttgtgtgt gactccata ggccagtcac tgcgtcaat gtatacaacg 400  
ataccagat caaattactc attaaacaag atgatgaact tgaagtctcc 450  
gcctatgaag acatcttcag ggatgaagag gaggtgaag agcattcagg 500  
aaatgacagt gatgggtcag agccttctga gaagcgaca cggttagaag 550  
aggagatagt ggagcaaacc atgcggagga ggcagcggcg agagtgggag 600  
gcccggagaa gagacatcct ctttgactac gagcagtatg aatatcatgg 650  
gacatcgtea gccatgttga tgtttgagct ggcttggatg ctgtccaagg 700  
acctgaatga catgctgttg tgggccatcg ttggactaac agaccagtgg 750  
gtgcaagaca agatcactca aatgaaatac gtgactgatg ttgggtgtct 800  
gcagcgccac gtttcccgcc acaaccaccg gaacgaggat gaggagaaca 850  
cactctcgtg ggactgcaca cggtatctct ttgagtatga cctccgcctg 900  
gtgctctacc agcactggtc cctccatgac agcctgtgca acaccagcta 950  
taccgcagcc aggttcaagc tgtggtctgt gcatggacag aagcggctcc 1000  
aggagtctct tgcagacatg ggtcttcccc tgaagcaggt gaagcagaag 1050  
ttccaggcca tggacatctc cttgaaggag aatttgcggg aaatgattga 1100  
agagtctgca aataaatttg ggatgaagga catgcgcgtg cagactttca 1150  
gcattcattt tgggttcaag cacaagtttc tggccagcga cgtggtcttt 1200



gccaccatgt ctttcatgga gagccccgag aaggatggct cagggacaga 1250  
 tcacttcacg caggctctgg acagcctctc caggagtaac ctggacaagc 1300  
 tgtaccatgg cctggaactc gccaaagaagc agctgcgagc caccagcag 1350  
 accattgccg gctgc 1365

<210> 41  
 <211> 566  
 <212> PRT  
 <213> Homo sapiens

<400> 41  
 Met Phe Val Ser Asp Phe Arg Lys Glu Phe Tyr Glu Val Val Gln 15  
 1 5 10  
 Ser Gln Arg Val Leu Leu Phe Val Ala Ser Asp Val Asp Ala Leu 30  
 20 25  
 Cys Ala Cys Lys Ile Leu Gln Ala Leu Phe Gln Cys Asp His Val 45  
 35 40  
 Gln Tyr Thr Leu Val Pro Val Ser Gly Trp Gln Glu Leu Glu Thr 60  
 50 55  
 Ala Phe Leu Glu His Lys Glu Gln Phe His Tyr Phe Ile Leu Ile 75  
 65 70  
 Asn Cys Gly Ala Asn Val Asp Leu Leu Asp Ile Leu Gln Pro Asp 90  
 80 85  
 Glu Asp Thr Ile Phe Phe Val Cys Asp Ser His Arg Pro Val Asn 105  
 95 100  
 Val Val Asn Val Tyr Asn Asp Thr Gln Ile Lys Leu Leu Ile Lys 120  
 110 115  
 Gln Asp Asp Asp Leu Glu Val Pro Ala Tyr Glu Asp Ile Phe Arg 135  
 125 130  
 Asp Glu Glu Glu Asp Glu Glu His Ser Gly Asn Asp Ser Asp Gly 150  
 140 145  
 Ser Glu Pro Ser Glu Lys Arg Thr Arg Leu Glu Glu Glu Ile Val 165  
 155 160  
 Glu Gln Thr Met Arg Arg Arg Gln Arg Arg Glu Trp Glu Ala Arg 180  
 170 175  
 Arg Arg Asp Ile Leu Phe Asp Tyr Glu Gln Tyr Glu Tyr His Gly 195  
 185 190  
 Thr Ser Ser Ala Met Val Met Phe Glu Leu Ala Trp Met Leu Ser 210  
 200 205  
 Lys Asp Leu Asn Asp Met Leu Trp Trp Ala Ile Val Gly Leu Thr 225  
 215 220  
 Asp Gln Trp Val Gln Asp Lys Ile Thr Gln Met Lys Tyr Val Thr 240  
 230 235  
 Asp Val Gly Val Leu Gln Arg His Val Ser Arg His Asn His Arg

245	250	255
Asn Glu Asp Glu Glu	Asn Thr Leu Ser Val Asp Cys Thr Arg Ile	
260	265	270
Ser Phe Glu Tyr Asp	Leu Arg Leu Val Leu Tyr Gln His Trp Ser	
275	280	285
Leu His Asp Ser Leu	Cys Asn Thr Ser Tyr Thr Ala Ala Arg Phe	
290	295	300
Lys Leu Trp Ser Ser	Val His Gly Gln Lys Arg Leu Gln Glu Phe Leu	
305	310	315
Ala Asp Met Gly Leu	Pro Leu Lys Gln Val Lys Gln Lys Phe Gln	
320	325	330
Ala Met Asp Ile Ser	Leu Lys Glu Asn Leu Arg Glu Met Ile Glu	
335	340	345
Glu Ser Ala Asn Lys	Phe Gly Met Lys Asp Met Arg Val Gln Thr	
350	355	360
Phe Ser Ile His Phe	Gly Phe Lys His Lys Phe Leu Ala Ser Asp	
365	370	375
Val Val Phe Ala Thr	Met Ser Leu Met Glu Ser Pro Glu Lys Asp	
380	385	390
Gly Ser Gly Thr Asp	His Phe Ile Gln Ala Leu Asp Ser Leu Ser	
395	400	405
Arg Ser Asn Leu Asp	Lys Leu Tyr His Gly Leu Glu Leu Ala Lys	
410	415	420
Lys Gln Leu Arg Ala	Thr Gln Gln Thr Ile Ala Ser Cys Leu Cys	
425	430	435
Thr Asn Leu Val Ile	Ser Gln Gly Pro Phe Leu Tyr Cys Ser Leu	
440	445	450
Met Glu Gly Thr Pro	Asp Val Met Leu Phe Ser Arg Pro Ala Ser	
455	460	465
Leu Ser Leu Leu Ser	Lys His Leu Leu Lys Ser Phe Val Cys Ser	
470	475	480
Thr Lys Asn Arg Arg	Cys Lys Leu Leu Pro Leu Val Met Ala Ala	
485	490	495
Pro Leu Ser Met Glu	His Gly Thr Val Thr Val Val Gly Ile Pro	
500	505	510
Pro Glu Thr Asp Ser	Ser Asp Arg Lys Asn Phe Phe Gly Arg Ala	
515	520	525
Phe Glu Lys Ala Ala	Glu Ser Thr Ser Ser Arg Met Leu His Asn	
530	535	540
His Phe Asp Leu Ser	Val Ile Glu Leu Lys Ala Glu Asp Arg Ser	
545	550	555
Lys Phe Leu Asp Ala	Leu Ile Ser Leu Leu Ser	

<210> 42  
 <211> 380  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 44, 118, 172, 183  
 <223> unknown base

<400> 42  
 gtacctcagc gcgagcgcca ggcgtccggc cgcggtggct atgntcgtgt 50  
 ccgatttccg caaagagttc tacgaggttg tccagagcca gagggctcctt 100  
 ctcttcgttg cctcggangt ggatgctctg tgtgctgca agatccttca 150  
 ggccttgttc cagtgtgacc angtgcaata tangctgggt ccagtttctg 200  
 ggtggcaaga acttgaaact gcatttcttg agcataaaga acagtttcat 250  
 tattttattc tcataaaactg tggagctaata gtagacctat tggatattct 300  
 tcaacctgat gaagacacta tattctttgt gtgtgacacc cataggccag 350  
 tcaatgttgt caatgtatac aacgataccc 380

<210> 43  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 43  
 ttccgcaaag agttctacga ggtgg 25

<210> 44  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 44  
 attgacaaca ttgactggcc tatggg 26

<210> 45  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 45  
 gtggatgctc tgtgtgcgtg caagatcctt caggccttgt tccagtgta 50

<210> 46

<211> 3089  
 <212> DNA  
 <213> Homo sapiens

<400> 46  
 caggaaccct ctctttgggt ctggattggg acccctttcc agtaccattt 50  
 tttctagtga accacgaagg gacgatacca gaaaacaccc tcaacccaaa 100  
 ggaaatagac tacagcccca attggctgac ttggctata gaaaaaagaa 150  
 aggaacgaaa agagacagtt ttttttggaa agctaagtct tccctttatc 200  
 gagtcaagaa accccccctt cttgagctat ttacagcttt taacaattga 250  
 gtaaagtacg ctccgggtcac catggtgaca gccgcctcg gtcccgctcg 300  
 ggcagcgctc ctgctctttc tcctgatgtg tgagatccgt atgtgtggagc 350  
 tcacctttga cagagctgtg gccagcggct gccaacgggtg ctgtgactct 400  
 gaggaccccc tggatcctgc ccatgtatcc tcagcctctt cctccggcgg 450  
 cccccacgcc ctgccctgaga tcagacccta cattaatatc accatcctga 500  
 aggggtgacaa aggggaccca ggcccaatgg gcctgccagg gtacatgggg 550  
 agggagggtc cccaaggga gcctggccct cagggcagca agggtgacaa 600  
 gggggagatg ggcagccccg gcgccccgtg ccagaagcgc ttcttcgect 650  
 tctcagtggt ccgaagacg gccctgcaca gcggcgagga cttccagacg 700  
 ctgctcttcg aaagggtctt tgtgaacctt gatgggtgct ttgacatggc 750  
 gaccggccag ttgtctgctc cctgcgtgg catctacttc ttcagcctca 800  
 atgtgcacag ctggaattac aaggagacgt acgtgcacat tatgcataac 850  
 cagaaagagg ctgtcatcct gtacgcgcag ccagcgcagc gcagcatcat 900  
 gcagagccag agtgtgatgc tggacctggc ctacggggac cgcgtctggg 950  
 tgcggtctct caagcgcag cgcgagaacg ccactctacag caacgacttc 1000  
 gacacctaca tcaccttcag cggccacctc atcaaggcgg aggcagactg 1050  
 agggcctctg ggccaccctc ccggctggag agctcaggtg ctgggtccctg 1100  
 cccctgcagg gctcagtttg cactgctgtg aagcaggaag gccagggagg 1150  
 tccccgggga cctggcattc tggggagacc ctgcttctat cttggctgcc 1200  
 atcatccctc ccagcctatt tctgctctct tcttctctct tggacctatt 1250  
 ttaagaagct tgctaacct aatattctag aactttocca gctcgtagc 1300  
 ccagcacttc tcaaacttg aaatgcatgc gaatcacccc gggttcgtgt 1350  
 taaatgcaga ttctgactca gcaggtctga gtgggtccag gattctgtgt 1400  
 ttctcatatg ttctgggtg atgctgatgg ggtcagtcta tgaaccacac 1450

tggagcaacc aggttctagg actttctcaa tattctagta ctttctgaac 1500  
 attctggaat cctcccaca tctagaatt ctccaacat tttttttct 1550  
 tgagacagag tottgctctg ttgccaggc tagagtgcag tgggtgcaac 1600  
 tcagttcact gcaacctctg cctccgggt tcaagcgatt cttctgcctc 1650  
 agcctcceta gtgctggga ttacaggcgc ctgctacat gcttggttaa 1700  
 tttttgtatt tttagtagag atggggttcc accatattgg ccagctggt 1750  
 cttgaactcc tgacttcagg tgaccaccc gctcggcct ctcaaaatgc 1800  
 tgggattaca ggtgtgagcc accgtgcctg gccaatcca acattcttaa 1850  
 attctctcat cctccaggg ctcccgctg tatgttctct ttacccttc 1900  
 cccctcttct cttgctcagg cctgcaccac tgcagccacc gtctatttat 1950  
 tcattcatta aacctgagc actcactctg tgcgtgggtcc cgggaagggt 2000  
 gagggggtca gacacaggcc ctgccctgc cctcagtgac tggccagtc 2050  
 agccaggcg gggagagatg tgtacatagg ttttaaagca gaccagagc 2100  
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 Pro His Ala Leu Pro Glu Ile Arg Pro Tyr Ile Asn Ile Thr Ile  
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 Tyr Met Gly Arg Glu Gly Pro Gln Gly Glu Pro Gly Pro Gln Gly  
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 Ser Lys Gly Asp Lys Gly Glu Met Gly Ser Pro Gly Ala Pro Cys  
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 Gln Lys Arg Phe Phe Ala Phe Ser Val Gly Arg Lys Thr Ala Leu  
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 Ala Pro Leu Arg Gly Ile Tyr Phe Phe Ser Leu Asn Val His Ser  
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 Trp Asn Tyr Lys Glu Thr Tyr Val His Ile Met His Asn Gln Lys  
 185 190 195  
 Glu Ala Val Ile Leu Tyr Ala Gln Pro Ser Glu Arg Ser Ile Met



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 <212> PRT  
 <213> Homo sapiens

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 35 40 45  
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 65 70 75  
 Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser  
 80 85 90  
 Leu Pro Ser Gly Val Phe Gln Pro Leu Ala Asn Leu Ser Asn Leu

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Arg Gly Leu Arg	Arg Leu Glu Arg Leu Tyr Leu Gly Lys Asn Arg	
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Ile Arg His Ile	Gln Pro Gly Ala Phe Asp Thr Leu Asp Arg Leu	
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Leu Glu Leu Lys	Leu Gln Asp Asn Glu Leu Arg Ala Leu Pro Pro	
155	160	165
Leu Arg Leu Pro	Arg Leu Leu Leu Leu Asp Leu Ser His Asn Ser	
170	175	180
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Leu Phe Ser Arg	Leu Arg Asn Leu His Asp Leu Asp Val Ser Asp	
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245	250	255
Arg Pro Glu Asp	Leu Ala Gly Leu Ala Ala Leu Gln Glu Leu Asp	
260	265	270
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275	280	285
Leu Phe Pro Arg	Leu Arg Leu Leu Ala Ala Ala Arg Asn Pro Phe	
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Ser His Val Thr	Leu Ala Ser Pro Glu Glu Thr Arg Cys His Phe	
320	325	330
Pro Pro Lys Asn	Ala Gly Arg Leu Leu Leu Glu Leu Asp Tyr Ala	
335	340	345
Asp Phe Gly Cys	Pro Ala Thr Thr Thr Thr Ala Thr Val Pro Thr	
350	355	360
Thr Arg Pro Val	Val Arg Glu Pro Thr Ala Leu Ser Ser Ser Leu	
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Ala Pro Thr Trp	Leu Ser Pro Thr Ala Pro Ala Thr Glu Ala Pro	
380	385	390
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Pro Gln Asp Cys	Pro Pro Ser Thr Cys Leu Asn Gly Gly Thr Cys	

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Leu Arg Leu Pro Ala Ser Leu Ala Glu Tyr Thr Val Thr Gln Leu 515		525
Arg Pro Asn Ala Thr Tyr Ser Val Cys Val Met Pro Leu Gly Pro 530		540
Gly Arg Val Pro Glu Gly Glu Glu Ala Cys Gly Glu Ala His Thr 545		555
Pro Pro Ala Val His Ser Asn His Ala Pro Val Thr Gln Ala Arg 560		570
Glu Gly Asn Leu Pro Leu Leu Ile Ala Pro Ala Leu Ala Ala Val 575		585
Leu Leu Ala Ala Leu Ala Ala Val Gly Ala Ala Tyr Cys Val Arg 590		600
Arg Gly Arg Ala Met Ala Ala Ala Ala Gln Asp Lys Gly Gln Val 605		615
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<220>

<223> Synthetic oligonucleotide probe

<400> 53

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<210> 56  
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<211> 811

<212> PRT

<213> Homo sapiens

<400> 57

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Val	Leu	Ile	Leu	Cys	His	Asn	Arg	Ile	Gln	Gln	Leu	Asp	Leu	Lys
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Thr	Phe	Glu	Phe	Asn	Lys	Glu	Leu	Arg	Tyr	Leu	Asp	Leu	Ser	Asn	
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				110					115					120	
Tyr	Leu	Asp	Leu	Ser	Phe	Asn	Asp	Phe	Asp	Thr	Met	Pro	Ile	Cys	
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Glu	Glu	Ala	Gly	Asn	Met	Ser	His	Leu	Glu	Ile	Leu	Gly	Leu	Ser	
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Gly	Ala	Lys	Ile	Gln	Lys	Ser	Asp	Phe	Gln	Lys	Ile	Ala	His	Leu	
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His	Leu	Asn	Thr	Val	Phe	Leu	Gly	Phe	Arg	Thr	Leu	Pro	His	Tyr	
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Glu	Glu	Gly	Ser	Leu	Pro	Ile	Leu	Asn	Thr	Thr	Lys	Leu	His	Ile	
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Val	Leu	Pro	Met	Asp	Thr	Asn	Phe	Trp	Val	Leu	Leu	Arg	Asp	Gly	
				200					205					210	
Ile	Lys	Thr	Ser	Lys	Ile	Leu	Glu	Met	Thr	Asn	Ile	Asp	Gly	Lys	
				215					220					225	
Ser	Gln	Phe	Val	Ser	Tyr	Glu	Met	Gln	Arg	Asn	Leu	Ser	Leu	Glu	
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Asn	Ala	Lys	Thr	Ser	Val	Leu	Leu	Leu	Asn	Lys	Val	Asp	Leu	Leu	
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Trp	Asp	Asp	Leu	Phe	Leu	Ile	Leu	Gln	Phe	Val	Trp	His	Thr	Ser	
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Val	Glu	His	Phe	Gln	Ile	Arg	Asn	Val	Thr	Phe	Gly	Gly	Lys	Ala	
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Tyr	Leu	Asp	His	Asn	Ser	Phe	Asp	Tyr	Ser	Asn	Thr	Val	Met	Arg	
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Thr	Ile	Lys	Leu	Glu	His	Val	His	Phe	Arg	Val	Phe	Tyr	Ile	Gln	
				305					310					315	
Gln	Asp	Lys	Ile	Tyr	Leu	Leu	Leu	Thr	Lys	Met	Asp	Ile	Glu	Asn	
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Tyr	Pro	Thr	Lys	Phe	Gln	Tyr	Leu	Asn	Phe	Ala	Asn	Asn	Ile	Leu	
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Thr	Asp	Glu	Leu	Phe	Lys	Arg	Thr	Ile	Gln	Leu	Pro	His	Leu	Lys	
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Ser	Cys	Phe	Ala	Asn	Asn	Thr	Pro	Leu	Glu	His	Leu	Asp	Leu	Ser	
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Gln	Asn	Leu	Leu	Gln	His	Lys	Asn	Asp	Glu	Asn	Cys	Ser	Trp	Pro
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Glu	Thr	Val	Val	Asn	Met	Asn	Leu	Ser	Tyr	Asn	Lys	Leu	Ser	Asp
				425					430					435
Ser	Val	Phe	Arg	Cys	Leu	Pro	Lys	Ser	Ile	Gln	Ile	Leu	Asp	Leu
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Asn	Asn	Asn	Gln	Ile	Gln	Thr	Val	Pro	Lys	Glu	Thr	Ile	His	Leu
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Met	Ala	Leu	Arg	Glu	Leu	Asn	Ile	Ala	Phe	Asn	Phe	Leu	Thr	Asp
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Leu	Pro	Gly	Cys	Ser	His	Phe	Ser	Arg	Leu	Ser	Val	Leu	Asn	Ile
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Glu	Met	Asn	Phe	Ile	Leu	Ser	Pro	Ser	Leu	Asp	Phe	Val	Gln	Ser
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Cys	Gln	Glu	Val	Lys	Thr	Leu	Asn	Ala	Gly	Arg	Asn	Pro	Phe	Arg
				515					520					525
Cys	Thr	Cys	Glu	Leu	Lys	Asn	Phe	Ile	Gln	Leu	Glu	Thr	Tyr	Ser
				530					535					540
Glu	Val	Met	Met	Val	Gly	Trp	Ser	Asp	Ser	Tyr	Thr	Cys	Glu	Tyr
				545					550					555
Pro	Leu	Asn	Leu	Arg	Gly	Thr	Arg	Leu	Lys	Asp	Val	His	Leu	His
				560					565					570
Glu	Leu	Ser	Cys	Asn	Thr	Ala	Leu	Leu	Ile	Val	Thr	Ile	Val	Val
				575					580					585
Ile	Met	Leu	Val	Leu	Gly	Leu	Ala	Val	Ala	Phe	Cys	Cys	Leu	His
				590					595					600
Phe	Asp	Leu	Pro	Trp	Tyr	Leu	Arg	Met	Leu	Gly	Gln	Cys	Thr	Gln
				605					610					615
Thr	Trp	His	Arg	Val	Arg	Lys	Thr	Thr	Gln	Glu	Gln	Leu	Lys	Arg
				620					625					630
Asn	Val	Arg	Phe	His	Ala	Phe	Ile	Ser	Tyr	Ser	Glu	His	Asp	Ser
				635					640					645
Leu	Trp	Val	Lys	Asn	Glu	Leu	Ile	Pro	Asn	Leu	Glu	Lys	Glu	Asp
				650					655					660
Gly	Ser	Ile	Leu	Ile	Cys	Leu	Tyr	Glu	Ser	Tyr	Phe	Asp	Pro	Gly
				665					670					675
Lys	Ser	Ile	Ser	Glu	Asn	Ile	Val	Ser	Phe	Ile	Glu	Lys	Ser	Tyr
				680					685					690
Lys	Ser	Ile	Phe	Val	Leu	Ser	Pro	Asn	Phe	Val	Gln	Asn	Glu	Trp
				695					700					705
Cys	His	Tyr	Glu	Phe	Tyr	Phe	Ala	His	His	Asn	Leu	Phe	His	Glu
				710					715					720







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 <212> PRT  
 <213> Homo sapiens

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 35 40 45  
 Tyr Tyr Ala Arg Pro Glu Pro Glu Leu Glu Thr Phe Ser Pro Pro  
 50 55 60  
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 65 70 75  
 Pro Arg Pro Pro Lys Arg Ala Thr Lys Pro Lys Lys Ala Pro Lys  
 80 85 90  
 Arg Glu Lys Ser Ala Pro Glu Pro Pro Pro Gly Lys His Ser  
 95 100 105  
 Asn Lys Lys Val Met Arg Thr Lys Ser Ser Glu Lys Ala Ala Asn  
 110 115 120  
 Asp Asp His Ser Val Arg Val Ala Arg Glu Asp Val Arg Glu Ser  
 125 130 135  
 Cys Pro Pro Leu Gly Leu Glu Thr Leu Lys Ile Thr Asp Phe Gln  
 140 145 150  
 Leu His Ala Ser Thr Val Lys Arg Tyr Gly Leu Gly Ala His Arg  
 155 160 165  
 Gly Arg Leu Asn Ile Gln Ala Gly Ile Asn Glu Asn Asp Phe Tyr  
 170 175 180  
 Asp Gly Ala Trp Cys Ala Gly Arg Asn Asp Leu Gln Gln Trp Ile

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Glu	Val	Asp	Ala	Arg	Arg	Leu	Thr	Arg	Phe	Thr	Gly	Val	Ile	Thr	
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Gln	Gly	Arg	Asn	Ser	Leu	Trp	Leu	Ser	Asp	Trp	Val	Thr	Ser	Tyr	
				215					220					225	
Lys	Val	Met	Val	Ser	Asn	Asp	Ser	His	Thr	Trp	Val	Thr	Val	Lys	
				230					235					240	
Asn	Gly	Ser	Gly	Asp	Met	Ile	Phe	Glu	Gly	Asn	Ser	Glu	Lys	Glu	
				245					250					255	
Ile	Pro	Val	Leu	Asn	Glu	Leu	Pro	Val	Pro	Met	Val	Ala	Arg	Tyr	
				260					265					270	
Ile	Arg	Ile	Asn	Pro	Gln	Ser	Trp	Phe	Asp	Asn	Gly	Ser	Ile	Cys	
				275					280					285	
Met	Arg	Met	Glu	Ile	Leu	Gly	Cys	Pro	Leu	Pro	Asp	Pro	Asn	Asn	
				290					295					300	
Tyr	Tyr	His	Arg	Arg	Asn	Glu	Met	Thr	Thr	Thr	Asp	Asp	Leu	Asp	
				305					310					315	
Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	Leu	Met	Lys	Val	
				320					325					330	
Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	Ile	Tyr	Asn	Ile	Gly	
				335					340					345	
Lys	Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	Glu	Ile	Ser	Asp	
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His	Pro	Gly	Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	His	Tyr	Ile	
				365					370					375	
Ala	Gly	Ala	His	Gly	Asn	Glu	Val	Leu	Gly	Arg	Glu	Leu	Leu	Leu	
				380					385					390	
Leu	Leu	Val	Gln	Phe	Val	Cys	Gln	Glu	Tyr	Leu	Ala	Arg	Asn	Ala	
				395					400					405	
Arg	Ile	Val	His	Leu	Val	Glu	Glu	Thr	Arg	Ile	His	Val	Leu	Pro	
				410					415					420	
Ser	Leu	Asn	Pro	Asp	Gly	Tyr	Glu	Lys	Ala	Tyr	Glu	Gly	Gly	Ser	
				425					430					435	
Glu	Leu	Gly	Gly	Trp	Ser	Leu	Gly	Arg	Trp	Thr	His	Asp	Gly	Ile	
				440					445					450	
Asp	Ile	Asn	Asn	Asn	Phe	Pro	Asp	Leu	Asn	Thr	Leu	Leu	Trp	Glu	
				455					460					465	
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				470					475					480	
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Glu	Ser	Leu	Ile	Val 635	Phe	Met	Glu	Gln	Val 640	His	Arg	Gly	Ile	Lys 645	
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Ile	Ser	Val	Glu	Gly 665	Ile	Asn	His	Asp	Ile 670	Arg	Thr	Ala	Asn	Asp 675	
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Ala	Lys	Ala	Glu	Gly 695	Phe	Thr	Ala	Ser	Thr 700	Lys	Asn	Cys	Met	Val 705	
Gly	Tyr	Asp	Met	Gly 710	Ala	Thr	Arg	Cys	Asp 715	Phe	Thr	Leu	Ser	Lys 720	
Thr	Asn	Met	Ala	Arg 725	Ile	Arg	Glu	Ile	Met 730	Glu	Lys	Phe	Gly	Lys 735	
Gln	Pro	Val	Ser	Leu 740	Pro	Ala	Arg	Arg	Leu 745	Lys	Leu	Arg	Gly	Arg 750	
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<210> 63
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 63
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<210> 64  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
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<400> 64  
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<210> 65  
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 <212> DNA  
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 <212> DNA  
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<210> 67  
<211> 510  
<212> PRT  
<213> Homo sapiens

<400> 67  
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Ser Pro Gly Phe Ser Ser Phe Pro Gly Val Asp Ser Ser Ser Ser  
35 40 45  
Phe Ser Ser Ser Ser Arg Ser Gly Ser Ser Ser Arg Ser Leu  
50 55 60  
Gly Ser Gly Gly Ser Val Ser Gln Leu Phe Ser Asn Phe Thr Gly  
65 70 75  
Ser Val Asp Asp Arg Gly Thr Cys Gln Cys Ser Val Ser Leu Pro  
80 85 90  
Asp Thr Thr Phe Pro Val Asp Arg Val Glu Arg Leu Glu Phe Thr  
95 100 105  
Ala His Val Leu Ser Gln Lys Phe Glu Lys Glu Leu Ser Lys Val  
110 115 120  
Arg Glu Tyr Val Gln Leu Ile Ser Val Tyr Glu Lys Lys Leu Leu  
125 130 135  
Asn Leu Thr Val Arg Ile Asp Ile Met Glu Lys Asp Thr Ile Ser  
140 145 150  
Tyr Thr Glu Leu Asp Phe Glu Leu Ile Lys Val Glu Val Lys Glu  
155 160 165  
Met Glu Lys Leu Val Ile Gln Leu Lys Glu Ser Phe Gly Gly Ser  
170 175 180  
Ser Glu Ile Val Asp Gln Leu Glu Val Glu Ile Arg Asn Met Thr  
185 190 195  
Leu Leu Val Glu Lys Leu Glu Thr Leu Asp Lys Asn Asn Val Leu  
200 205 210

Ala Ile Arg Arg	Glu Ile Val Ala Leu	Lys Thr Lys Leu Lys	Glu
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Pro Thr Pro Gly	Ser Cys Gly His Gly	Gly Val Val Asn Ile	Ser
	245	250	255
Lys Pro Ser Val	Val Gln Leu Asn Trp	Arg Gly Phe Ser Tyr	Leu
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Tyr Gly Ala Trp	Gly Arg Asp Tyr Ser	Pro Gln His Pro Asn	Lys
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Gly Leu Tyr Trp	Val Ala Pro Leu Asn	Thr Asp Gly Arg Leu	Leu
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Glu Tyr Tyr Arg	Leu Tyr Asn Thr Leu	Asp Asp Leu Leu Leu	Tyr
	305	310	315
Ile Asn Ala Arg	Glu Leu Arg Ile Thr	Tyr Gly Gln Gly Ser	Gly
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Gly Asn Ile Ala	Arg Val Asn Leu Thr	Thr Asn Thr Ile Ala	Val
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Thr Gln Thr Leu	Pro Asn Ala Ala Tyr	Asn Asn Arg Phe Ser	Tyr
	365	370	375
Ala Asn Val Ala	Trp Gln Asp Ile Asp	Phe Ala Val Asp Glu	Asn
	380	385	390
Gly Leu Trp Val	Ile Tyr Ser Thr Glu	Ala Ser Thr Gly Asn	Met
	395	400	405
Val Ile Ser Lys	Leu Asn Asp Thr Thr	Leu Gln Val Leu Asn	Thr
	410	415	420
Trp Tyr Thr Lys	Gln Tyr Lys Pro Ser	Ala Ser Asn Ala Phe	Met
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Val Cys Gly Val	Leu Tyr Ala Thr Arg	Thr Met Asn Thr Arg	Thr
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Glu Glu Ile Phe	Tyr Tyr Tyr Asp Thr	Asn Thr Gly Lys Glu	Gly
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Lys Leu Asp Ile	Val Met His Lys Met	Gln Glu Lys Val Gln	Ser
	470	475	480
Ile Asn Tyr Asn	Pro Phe Asp Gln Lys	Leu Tyr Val Tyr Asn	Asp
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 <211> 410  
 <212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 206, 217, 387

<223> unknown base

<400> 68

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gtattataga ctgtacaacc cactggatga tttgctattg tatataaatg 300

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taacctgacc 410

<210> 69

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 69

agctgtggtc atggtggtgt ggtg 24

<210> 70

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 70

ctaccttggc cataggtgat ccgc 24

<210> 71

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 71

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<210> 72

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<212> DNA

<213> Homo sapiens

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Gln	Gly	Ile	Ile	Gly	Leu	Ile	Leu	Phe	Leu	Leu	Cys	Val	Phe	Tyr
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Ser	Ser	Ile	Arg	Thr	Ser	Asn	Asn	Ser	Gln	Val	Asn	Lys	Leu	Thr
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Leu	Thr	Ser	Asp	Glu	Ser	Thr	Leu	Ile	Glu	Asp	Gly	Gly	Ala	Arg
				350					355					360
Ser	Asp	Gly	Ser	Leu	Glu	Asp	Gly	Asp	Asp	Val	His	Arg	Ala	Val
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Asp	Asn	Glu	Arg	Asp	Gly	Val	Thr	Tyr	Ser	Tyr	Ser	Phe	Phe	His
				380					385					390
Phe	Met	Leu	Phe	Leu	Ala	Ser	Leu	Tyr	Ile	Met	Met	Thr	Leu	Thr
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Asn	Trp	Ser	Arg	Tyr	Glu	Pro	Ser	Arg	Glu	Met	Lys	Ser	Gln	Trp
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Thr	Ala	Val	Trp	Val	Lys	Ile	Ser	Ser	Ser	Trp	Ile	Gly	Ile	Val
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 ttgttgagat atgtgtagct tgtgtaatgt tgataccagg aatggaagaa 250  
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 ttgctatgtt ctatcttctt ctctctttac taatgatcaa agtgaagagt 400

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tgctgcagca attgcaatta ttattggggc 480

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<222> 32, 65, 92, 121, 142, 154, 170, 293, 315, 323
<223> unknown base

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tttaaatttg ctgcagcaat tgcaattatt attggggc 438

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<212> DNA
<213> Homo sapiens

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<222> 48
<223> unknown base

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 caggtgcctt ttgtttcatc ctcatacaac tagtcttact tattgatttt 450  
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<210> 80  
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 35 40  
 Ile Ile Leu Val Leu Thr Asp Asp Gln Asp Val Glu Leu Gly Ser 60  
 50 55  
 Met Gln Val Met Asn Lys Thr Arg Arg Ile Met Glu Gln Gly Gly 75  
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 140 145  
 Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp Val Gly Leu Leu Lys 165  
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 170 175  
 Glu Lys His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu Thr Asp Leu 195  
 185 190  
 Ile Thr Asn Asp Ser Val Ser Phe Phe Arg Thr Ser Lys Lys Met 210  
 200 205  
 Tyr Pro His Arg Pro Val Leu Met Val Ile Ser His Ala Ala Pro 225  
 215 220  
 His Gly Pro Glu Asp Ser Ala Pro Gln Tyr Ser Arg Leu Phe Pro 240  
 230 235  
 Asn Ala Ser Gln His Ile Thr Pro Ser Tyr Asn Tyr Ala Pro Asn 255  
 245 250

Pro Asp Lys His Trp	Ile Met Arg Tyr	Thr Gly Pro Met Lys Pro	260	265	270
Ile His Met Glu Phe	Thr Asn Met Leu	Gln Arg Lys Arg Leu Gln	275	280	285
Thr Leu Met Ser Val	Asp Asp Ser Met	Glu Thr Ile Tyr Asn Met	290	295	300
Leu Val Glu Thr Gly	Glu Leu Asp Asn	Thr Tyr Ile Val Tyr Thr	305	310	315
Ala Asp His Gly Tyr	His Ile Gly Gln	Phe Gly Leu Val Lys Gly	320	325	330
Lys Ser Met Pro Tyr	Glu Phe Asp Ile	Arg Val Pro Phe Tyr Val	335	340	345
Arg Gly Pro Asn Val	Glu Ala Gly Cys	Leu Asn Pro His Ile Val	350	355	360
Leu Asn Ile Asp Leu	Ala Pro Thr Ile	Leu Asp Ile Ala Gly Leu	365	370	375
Asp Ile Pro Ala Asp	Met Asp Gly Lys	Ser Ile Leu Lys Leu Leu	380	385	390
Asp Thr Glu Arg Pro	Val Asn Arg Phe	His Leu Lys Lys Lys Met	395	400	405
Arg Val Trp Arg Asp	Ser Phe Leu Val	Glu Arg Gly Lys Leu Leu	410	415	420
His Lys Arg Asp Asn	Asp Lys Val Asp	Ala Gln Glu Glu Asn Phe	425	430	435
Leu Pro Lys Tyr Gln	Arg Val Lys Asp	Leu Cys Gln Arg Ala Glu	440	445	450
Tyr Gln Thr Ala Cys	Glu Gln Leu Gly	Gln Lys Trp Gln Cys Val	455	460	465
Glu Asp Ala Thr Gly	Lys Leu Lys Leu	His Lys Cys Lys Gly Pro	470	475	480
Met Arg Leu Gly Gly	Ser Arg Ala Leu	Ser Asn Leu Val Pro Lys	485	490	495
Tyr Tyr Gly Gln Gly	Ser Glu Ala Cys	Thr Cys Asp Ser Gly Asp	500	505	510
Tyr Lys Leu Ser Leu	Ala Gly Arg Arg	Lys Lys Leu Phe Lys Lys	515	520	525
Lys Tyr Lys Ala Ser	Tyr Val Arg Ser	Arg Ser Ile Arg Ser Val	530	535	540
Ala Ile Glu Val Asp	Gly Arg Val Tyr	His Val Gly Leu Gly Asp	545	550	555
Ala Ala Gln Pro Arg	Asn Leu Thr Lys	Arg His Trp Pro Gly Ala	560	565	570

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Gly Gly Leu Pro Asp Tyr Ser Ala Ala Asn Pro Ile Lys Val Thr  
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His Arg Cys Tyr Ile Leu Glu Asn Asp Thr Val Gln Cys Asp Leu  
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Asp Leu Tyr Lys Ser Leu Gln Ala Trp Lys Asp His Lys Leu His  
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Ile Asp His Glu Ile Glu Thr Leu Gln Asn Lys Ile Lys Asn Leu  
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Arg Glu Val Arg Gly His Leu Lys Lys Lys Arg Pro Glu Glu Cys  
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Asp Cys His Lys Ile Ser Tyr His Thr Gln His Lys Gly Arg Leu  
665 670 675

Lys His Arg Gly Ser Ser Leu His Pro Phe Arg Lys Gly Leu Gln  
680 685 690

Glu Lys Asp Lys Val Trp Leu Leu Arg Glu Gln Lys Arg Lys Lys  
695 700 705

Lys Leu Arg Lys Leu Leu Lys Arg Leu Gln Asn Asn Asp Thr Cys  
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Ser Met Pro Gly Leu Thr Cys Phe Thr His Asp Asn Gln His Trp  
725 730 735

Gln Thr Ala Pro Phe Trp Thr Leu Gly Pro Phe Cys Ala Cys Thr  
740 745 750

Ser Ala Asn Asn Asn Thr Tyr Trp Cys Met Arg Thr Ile Asn Glu  
755 760 765

Thr His Asn Phe Leu Phe Cys Glu Phe Ala Thr Gly Phe Leu Glu  
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Tyr Phe Asp Leu Asn Thr Asp Pro Tyr Gln Leu Met Asn Ala Val  
785 790 795

Asn Thr Leu Asp Arg Asp Val Leu Asn Gln Leu His Val Gln Leu  
800 805 810

Met Glu Leu Arg Ser Cys Lys Gly Tyr Lys Gln Cys Asn Pro Arg  
815 820 825

Thr Arg Asn Met Asp Leu Asp Gly Gly Ser Tyr Glu Gln Tyr Arg  
830 835 840

Gln Phe Gln Arg Arg Lys Trp Pro Glu Met Lys Arg Pro Ser Ser  
845 850 855

Lys Ser Leu Gly Gln Leu Trp Glu Gly Trp Glu Gly  
860 865

<210> 85  
<211> 19  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 85  
gaagccggct gctggaatc 19

<210> 86  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 86  
ggccagctat ctccgag 18

<210> 87  
<211> 18  
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<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 87  
aagggcctgc aagagaag 18

<210> 88  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 88  
cactgggaca actgtggg 18

<210> 89  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 89  
cagaggcaac gtggagag 18

<210> 90  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 90  
aagtattgtc atacagtgtt c 21



<210> 91  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 91  
tagtacttgg gcacgaggtt ggag 24

<210> 92  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 92  
tcataccaac tgctgggtcat tggc 24

<210> 93  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 93  
ctcaagctgc tggacacgga gcggccggtg aatcggttcc acttg 45

<210> 94  
<211> 971  
<212> DNA  
<213> Homo sapiens

<400> 94  
aacaaagtcc agtgactgag agggctgagc ggaggctgct gaaggggaga 50  
aaggagtgag gagctgctgg gcagagaggg actgtccggc tcccagatgc 100  
tgggcctcct ggggagcaca gccctcgtgg gatggatcac aggtgctgct 150  
gtggcggtcc tgctgctgct gctgctgctg gccacctgcc tttccacgg 200  
acggcaggac tgtgacgtgg agaggaaacc tacagctgca gggggaacc 250  
gagtcgcgcg ggccacgcct tggcccttcc ggcggcgggg ccacctggga 300  
atctttcacc atcacgtca tcctggccac gtatctcatg tgcgaatgt 350  
gggcctccac caccacacc acccccgcca caccctcac cacctccacc 400  
accaccacca cccccaccgc caccatccc gccacgctcg ctgaggctgc 450  
tgtgcgcggt gcctgtggac agcagctgcc cctgccctcc catctgttcc 500  
caggacaagt ggaccccatg tttccatgtg gaaggatgca tctctgggg 550  
gaacgagggg aacaatagac tggggcttgc tccagctgca ttgcatggc 600

atgccccagt gtactatggc agcagagaat ggaggaacac tgggtctgca 650  
 gtgtgaagg gtttggggag tggagagcaa ggggtgtctt tcggggctgg 700  
 acagcccgtc ttgtgacagt gactcccaat gagccccaga aatgacaagc 750  
 gtgtcttggc agagccagca cacaagtgga tgtgaagtgc ccgtcttgac 800  
 ctctcatca ggctgtgca ggccctctggc gggcagggca ctgggagagg 850  
 ccctgagaat gtcccttttg tttggagaag gcagtgtgag gctgcacagt 900  
 caattcatcg gtgccttagt ccaagaaaaa aaaaaccact aagaagcttt 950  
 aaaaaaaaaa aaaaaaaaaa a 971

<210> 95  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 95  
 Met Leu Gly Leu Leu Gly Ser Thr Ala Leu Val Gly Trp Ile Thr  
 1 5 10 15  
 Gly Ala Ala Val Ala Val Leu Leu Leu Leu Leu Leu Ala Thr  
 20 25 30  
 Cys Leu Phe His Gly Arg Gln Asp Cys Asp Val Glu Arg Asn Arg  
 35 40 45  
 Thr Ala Ala Gly Gly Asn Arg Val Arg Arg Ala Gln Pro Trp Pro  
 50 55 60  
 Phe Arg Arg Arg Gly His Leu Gly Ile Phe His His His Arg His  
 65 70 75  
 Pro Gly His Val Ser His Val Pro Asn Val Gly Leu His His His  
 80 85 90  
 His His Pro Arg His Thr Pro His His Leu His His His His His  
 95 100 105  
 Pro His Arg His His Pro Arg His Ala Arg  
 110 115

<210> 96  
 <211> 1312  
 <212> DNA  
 <213> Homo sapiens

<400> 96  
 ggcggtgct gagtgcctt gaggtgcagt gttggggatc cagagccatg 50  
 tcggacctgc tactactggg cctgattggg ggccctgactc tcttactgct 100  
 gtgacgctg ctggcctttg ccgggtactc agggctactg gctgggggtg 150  
 aagtgagtgc tgggtcaccc ccatccgca acgtcactgt ggccatacag 200  
 ttccacatgg ggctctatgg tgagactggg cggtctttca ctgagagctg 250  
 cagcatctct cccaagctcc gtcctatcgc tgtctactat gacaaccccc 300

acatggtgcc ccctgataag tgccgatgtg ccgtgggcag catcctgagt 350  
 gaaggtgagg aatcgccctc ccctgagctc atcgacctct accagaaatt 400  
 tggcttcaag gtgttctcct tcccggcacc cagccatgtg gtgacagcca 450  
 ccttccccta caccaccatt ctgtccatct ggctggctac ccgccgtgtc 500  
 catcctgcct tggacaccta catcaaggag cggagactgt gtgcctatcc 550  
 tcggctggag atctaccagg aagaccagat ccatttcatg tgcccactgg 600  
 cacggcaggg agacttctat gtgcctgaga tgaaggagac agagtggaaa 650  
 tggcgggggc ttgtggaggc cattgacacc caggtggatg gcacaggagc 700  
 tgacacaatg agtgacacga gttctgtaag cttggaagtg agccctggca 750  
 gccggggagac ttcagctgcc aactgtcac ctggggcgag cagccgtggc 800  
 tgggatgacg gtgacacccg cagcgagcac agctacacagc agtcagggtc 850  
 cagcggctcc tcttttgagg agctggactt ggagggcgag gggcccttag 900  
 gggagtcacg gctggaccct gggactgagc ccctggggac taccaagtgg 950  
 ctctgggagc ccactgcccc tgagaagggc aaggagtaac ccatggcctg 1000  
 caccctctcg cagtgcagtt gctgaggaac tgagcagact ctccagcaga 1050  
 ctctccagcc ctcttcctcc ttctctggg ggagggaggg ttctgagggg 1100  
 acctgacttc ccctgtcca ggctcttgc taagccttct cctcactgcc 1150  
 ctttaggtc ccagggccag aggagccagg gactatttct tgcaccagcc 1200  
 cccagggtcg ccgcccctgt tgtgtctttt ttccagactc acagtggagc 1250  
 ttccaggacc cagaataaag ccaatgattt actgtttca cctggaaaaa 1300  
 aaaaaaaaaa aa 1312

<210> 97  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 97  
 Met Ser Asp Leu Leu Leu Gly Leu Ile Gly Gly Leu Thr Leu  
 1 5 10 15  
 Leu Leu Leu Leu Thr Leu Leu Ala Phe Ala Gly Tyr Ser Gly Leu  
 20 25 30  
 Leu Ala Gly Val Glu Val Ser Ala Gly Ser Pro Pro Ile Arg Asn  
 35 40 45  
 Val Thr Val Ala Tyr Lys Phe His Met Gly Leu Tyr Gly Glu Thr  
 50 55 60  
 Gly Arg Leu Phe Thr Glu Ser Cys Ser Ile Ser Pro Lys Leu Arg  
 65 70 75

Ser Ile Ala Val Tyr	Tyr Asp Asn Pro	His Met Val Pro	Pro Asp
80		85	90
Lys Cys Arg Cys Ala	Val Gly Ser Ile	Leu Ser Glu Gly	Glu Glu
95		100	105
Ser Pro Ser Pro Glu	Leu Ile Asp Leu	Tyr Gln Lys Phe	Gly Phe
110		115	120
Lys Val Phe Ser Phe	Pro Ala Pro Ser	His Val Val Thr	Ala Thr
125		130	135
Phe Pro Tyr Thr Thr	Ile Leu Ser Ile	Trp Leu Ala Thr	Arg Arg
140		145	150
Val His Pro Ala Leu	Asp Thr Tyr Ile	Lys Glu Arg Lys	Leu Cys
155		160	165
Ala Tyr Pro Arg Leu	Glu Ile Tyr Gln	Glu Asp Gln Ile	His Phe
170		175	180
Met Cys Pro Leu Ala	Arg Gln Gly Asp	Phe Tyr Val Pro	Glu Met
185		190	195
Lys Glu Thr Glu Trp	Lys Trp Arg Gly	Leu Val Glu Ala	Ile Asp
200		205	210
Thr Gln Val Asp Gly	Thr Gly Ala Asp	Thr Met Ser Asp	Thr Ser
215		220	225
Ser Val Ser Leu Glu	Val Ser Pro Gly	Ser Arg Glu Thr	Ser Ala
230		235	240
Ala Thr Leu Ser Pro	Gly Ala Ser Ser	Arg Gly Trp Asp	Asp Gly
245		250	255
Asp Thr Arg Ser Glu	His Ser Tyr Ser	Glu Ser Gly Ala	Ser Gly
260		265	270
Ser Ser Phe Glu Glu	Leu Asp Leu Glu	Gly Glu Gly Pro	Leu Gly
275		280	285
Glu Ser Arg Leu Asp	Pro Gly Thr Glu	Pro Leu Gly Thr	Thr Lys
290		295	300
Trp Leu Trp Glu Pro	Thr Ala Pro Glu	Lys Gly Lys Glu	
305		310	

<210> 98  
 <211> 725  
 <212> DNA  
 <213> Homo sapiens

<400> 98  
 ccgcgggaac gctgtcctcg ctgcgcgcac ccgaacagcc tgtcctggtg 50  
 ccccggtccc ctgcgccgcg cccagtcctg accctgcgc cctcactcct 100  
 cccgcctcat ctgctgctgc tgcgtgctgc cagtgcggcg gtgtgccggg 150  
 ctgaggctgg gctcgaaacc gaaagtccgc tcgggaacct ccaagtggag 200  
 accctggtgg agccccaga accatgtgcc gagcccgctg cttttggaga 250

cacgcttcac atacactaca cggaagcctt ggtagatgga cgtattattg 300  
 acacctccct gaccagagac cctctggtta tagaacttgg ccaaaagcag 350  
 gtgattccag gtctggagca gactcttctc gacatgtgtg tgggagagaa 400  
 gcgaaggcca atcattcctt ctacttggc ctatggaaaa cggggatttc 450  
 caccatctgt cccagcggat gcagtgggtc agtatgacgt ggagctgatt 500  
 gcaactaatcc gagccaacta ctggctaaag ctggtgaagg gcattttgcc 550  
 tctggtaggg atggccatgg tgccagccct cctgggcctc attgggtatc 600  
 acctatacag aaaggccaat agaccctaaag tctccaaaaa gaagctcaag 650  
 gaagagaaac gaaacaagag caaaaagaaa taataataa taaattttaa 700  
 aaaacttaaa aaaaaaaaaa aaaaa 725

<210> 99  
 <211> 201  
 <212> PRT  
 <213> Homo sapiens

<400> 99  
 Met Thr Leu Arg Pro Ser Leu Leu Pro Leu His Leu Leu Leu Leu  
 1 5 10 15  
 Leu Leu Leu Ser Ala Ala Val Cys Arg Ala Glu Ala Gly Leu Glu  
 20 25 30  
 Thr Glu Ser Pro Val Arg Thr Leu Gln Val Glu Thr Leu Val Glu  
 35 40 45  
 Pro Pro Glu Pro Cys Ala Glu Pro Ala Ala Phe Gly Asp Thr Leu  
 50 55 60  
 His Ile His Tyr Thr Gly Ser Leu Val Asp Gly Arg Ile Ile Asp  
 65 70 75  
 Thr Ser Leu Thr Arg Asp Pro Leu Val Ile Glu Leu Gly Gln Lys  
 80 85 90  
 Gln Val Ile Pro Gly Leu Glu Gln Ser Leu Leu Asp Met Cys Val  
 95 100 105  
 Gly Glu Lys Arg Arg Ala Ile Ile Pro Ser His Leu Ala Tyr Gly  
 110 115 120  
 Lys Arg Gly Phe Pro Pro Ser Val Pro Ala Asp Ala Val Val Gln  
 125 130 135  
 Tyr Asp Val Glu Leu Ile Ala Leu Ile Arg Ala Asn Tyr Trp Leu  
 140 145 150  
 Lys Leu Val Lys Gly Ile Leu Pro Leu Val Gly Met Ala Met Val  
 155 160 165  
 Pro Ala Leu Leu Gly Leu Ile Gly Tyr His Leu Tyr Arg Lys Ala  
 170 175 180  
 Asn Arg Pro Lys Val Ser Lys Lys Lys Leu Lys Glu Glu Lys Arg

Asn Lys Ser Lys Lys Lys  
200

<210> 100  
<211> 705  
<212> DNA  
<213> Homo sapiens

<400> 100  
ccggggaacg tggtcctggc tgccgcaccc gaacagcctg tcoctggtgcc 50  
ccggctccct gccccgcgcc cagtcacgac cctgcgcccc tcactcctcc 100  
cgctccatct gctgctgctg ctgctgctca gtgcggcggg gtgcccgggt 150  
gaggctgggc tcgaaaccga aagtcgccgc cggaccctcc aagtgagac 200  
cctggtggag cccccagaa catgtgcgca gcccgctgct tttggagaca 250  
cgcttccatc acactacacg ggaagccttg tagatggacg tattattgac 300  
acctccctga ccagagaccc tctggttata gaacttggcc aaaagcaggt 350  
gattccaggt ctggagcaga gtcttctcga catgtgtgtg ggagagaagc 400  
gaagggaat cattccttct cacttggcct atggaacacg gggatttcca 450  
ccatctgtcc cagcggatgc agtggtgcag tatgacgtg agctgattgc 500  
actaatccga gccaaactact ggctaaagct ggtgaagggc attttgcctc 550  
tggtagggat ggccatggtg ccaccctcct gggcctcatt ggggtatcac 600  
tatacagaaa ggccaataga cccaaagtct ccaaaaagaa gctcaaggaa 650  
gagaacgcaa acaagagcaa aaagaaataa taaataataa attttaaaaa 700  
actta 705

<210> 101  
<211> 543  
<212> DNA  
<213> Homo sapiens

<400> 101  
cogaaagtcc cgtccggacc ctccaagtgg agaccctggt ggagccccca 50  
gaaccatgtg ccgagcccgcc tgcttttggga gacacgcttc acatacacta 100  
cacgggaagc ttggtagatg gacgtattat tgacacotcc ctgaccagag 150  
accctctggt tatagaactt ggccaaaagc aggtgattcc aggtctggag 200  
cagagtcttc tcgacatgtg tgtgggagag aagcgaaggg caatcattcc 250  
ttctcacttg gcctatggaa aacggggatt tocaccatct gtcccagcgg 300  
atgcagtggg gcagtatgac gtggagctga ttgcactaat ccgagccaac 350  
tactggctaa agctggtgaa gggcattttg cctctggtag ggatggccat 400

ggtgccagcc ctctgggcc tcattgggta tcacctatac agaaaggcca 450  
 atagacccaa agtctccaaa aagaagtcta aggaagagaa acgaaacaag 500  
 agcaaaaaga aataataaat aataaatattt aaaaaactta aaa 543

<210> 102  
 <211> 1316  
 <212> DNA  
 <213> Homo sapiens

<400> 102  
 ctgctgcatac cgggtgtctg gaggtgtggt cggttttggt ttcttggcta 50  
 aaatcggggg agtgaggcgg gccggcgcgg cgcgacaccg gggtccggaa 100  
 ccactgcacg acggggctgg actgacctga aaaaaatgtc tggatttcta 150  
 gagggtctga gatgctcaga atgcattgac tggggggaaa agcgcaatac 200  
 tattgcttcc attgctgctg gtgtactatt ttttacaggc tgggtggatta 250  
 tcatagatgc agctgttatt tatccacca tgaaagattt caaccactca 300  
 taccatgcct gtggtgttat agcaaccata gccttcctaa tgattaatgc 350  
 agtatogaat ggacaagtcc gaggtgatag ttacagtga ggttgtctgg 400  
 gtcaaacagg tgctgcatt tggcttttgg ttggtttcat gttggccttt 450  
 ggatctctga ttgcatctat gtgattctt tttggaggtt atgttgctaa 500  
 agaaaaagac atagtatacc ctggaattgc tgtatttttc cagaatgcct 550  
 tcatcttttt tggagggctg gtttttaagt ttggccgcac tgaagactta 600  
 tggcagtga cacaatctgat ttcccacagc acaacagccc tgcattgggt 650  
 tgtttgtttt tttactgctc actcccaacc ttttgtaagt ccatttttcta 700  
 aacttatttc tgagtgtagt ctacagcttaa agttgtgtaa tactaaaatc 750  
 acgagaacac ctaaacaca accaaaaatc tattgtggta tgcacttgat 800  
 taacttataa aatgttagag gaaactttca catgaataat ttttgctaaa 850  
 ttttatcatg gtataatttg taaaaataaa aagaattac aaaagaaatt 900  
 atggtattgt caatgtaagt atttgcata tctgaggtcc aaaaccacaa 950  
 tgaaagtgt ctgaagattt aatgtgttta ttcaaatgtg gtctcttctg 1000  
 tgtcaaatgt taaatgaat ataacattt tttagttttt aaaaatttcc 1050  
 gtggtcaaaa ttcttctca ctataattgg tatttacttt taccaaaaat 1100  
 tctgtgaaca tgtaatgtaa ctggcttttg agggctctcc aagggttgag 1150  
 tggacgtgtt ggaagagaga agcaccatgg tccagccacc aggtccctg 1200  
 tgtcccttcc atgggaaggt cttccgctgt gcctctcatt ccaagggcag 1250  
 gaagatgtga ctcagccatg acacgtgggt ctggtgggat gcacagtcac 1300

tcacatcca ccactg 1316

<210> 103  
<211> 157  
<212> PRT  
<213> Homo sapiens

<400> 103  
Met Ser Gly Phe Leu Glu Gly Leu Arg Cys Ser Glu Cys Ile Asp  
1 5 10 15  
Trp Gly Glu Lys Arg Asn Thr Ile Ala Ser Ile Ala Ala Gly Val  
20 25 30  
Leu Phe Phe Thr Gly Trp Trp Ile Ile Ile Asp Ala Ala Val Ile  
35 40 45  
Tyr Pro Thr Met Lys Asp Phe Asn His Ser Tyr His Ala Cys Gly  
50 55 60  
Val Ile Ala Thr Ile Ala Phe Leu Met Ile Asn Ala Val Ser Asn  
65 70 75  
Gly Gln Val Arg Gly Asp Ser Tyr Ser Glu Gly Cys Leu Gly Gln  
80 85 90  
Thr Gly Ala Arg Ile Trp Leu Phe Val Gly Phe Met Leu Ala Phe  
95 100 105  
Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Gly Tyr Val  
110 115 120  
Ala Lys Glu Lys Asp Ile Val Tyr Pro Gly Ile Ala Val Phe Phe  
125 130 135  
Gln Asn Ala Phe Ile Phe Phe Gly Gly Leu Val Phe Lys Phe Gly  
140 145 150  
Arg Thr Glu Asp Leu Trp Gln  
155

<210> 104  
<211> 545  
<212> DNA  
<213> Homo sapiens

<400> 104  
ttcttggtcta aaatcgggg agtgaggcgg gccggcgcg cgcgacaccg 50  
ggctccggaa ccaactgcacg acggggctgg actgacctga aaaaaatgtc 100  
tggatttcta gagggcttga gatgctcaga atgcattgac tggggggaaa 150  
agcgcaatac tattgcttcc attgctgctg gtgtactatt tttacaggc 200  
tgggtggatta tcatagatgc agctgttatt tatcccacca tgaagattt 250  
caaacactca taccatgctt gtggtgttat agcaaccata gccttcttaa 300  
tgattaatgc agtatcgaat ggacaagtcc gaggtgatag ttacagttaa 350  
ggttgtctgg gtcaaacagg tgctcgcat tggcttttcg ttggtttcat 400



gttgcccttt ggatctctga ttgcattctat gtggattctt tttggaggtt 450  
 atgttgctaa agaaaaagac atagtataacc ctggaattgc tgtatttttc 500  
 cagaatgcct tcatotTTTT tggagggctg gtttttaagt ttggc 545

<210> 105  
 <211> 490  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 31, 39, 108, 145, 179, 219, 412, 479  
 <223> unknown base

<400> 105  
 tggacggacc tgaaaaaat gtttggattt nttagaggnt tgagatgttc 50  
 agaatgcatg actgggggaa aagcgcaaat actattgctt ccattgctgc 100  
 tgggtganta ttttttacag gctggtggat tatcatagat gcagntgtta 150  
 tttatccac catgaaagat ttcaaccant cataccatgc ctgtggtgtt 200  
 atagcaacca tagccttct aatgattaat gcagtatcga atggacaagt 250  
 cagaggtgat agttacagtg aaggttgttt ggtcacaaca ggtgctgcga 300  
 tttgctttt cgttggtttc atgttgccct ttggatctct gattgcatct 350  
 atgtggattc tttttggagg ttatgttgct aaagaaaaag acatagtata 400  
 ccttgaatt gntgtatttt tccagaatgc ctcatcttt tttggagggc 450  
 tggtttttaa gtttggccgc actgaagant tatggcagtg 490

<210> 106  
 <211> 466  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 26, 38, 81, 115, 207, 329, 380, 446, 449  
 <223> unknown base

<400> 106  
 ggacacggg ttccggacca atgcangacg ggttggantg acctgaaaaa 50  
 aatgtttgga ttttttagagg gcttgagatg ntcagaatgc attgactggg 100  
 ggaaaagcgc aatantattg ctttccattg ctgctggtgt actatttttt 150  
 acaggggtgt ggattatcat agatgcagct gttattttat ccaccatgaa 200  
 agatttnaac cactcatacc atgcctgttg tgttatagca accatagcct 250  
 tctaatgat taatgcagta tcgaatggac aagtcogagg tgatagttac 300  
 agtgaaggtt gtttgggtca aacaggtgnt cgcatttggc tttcgttg 350  
 tttcatgttg gcctttggat ttetgattgn attctatgcg gattctctt 400

ggaggttatg ttgctaaaga aaaagacata gtataccctg gaattnctnt 450  
 atttttocag aatgcc 466  
 <210> 107  
 <211> 377  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 52, 67, 70, 78, 105, 144, 150, 209, 266, 268, 282, 310, 331, 356  
 <223> unknown base  
 <400> 107  
 tagagggctt gagatgctca gaatgcattg actgggggga aaagcgcaat 50  
 antattgctt ccattgntgn tgggtgnta tttttttaca ggctggtgga 100  
 ttatnataga tgcagctggtt atttatccca ccatgaaaga tttnaaccan 150  
 tcataccatg cctgtggtgt tatagcaacc atagccttcc taatgattaa 200  
 tgcagtatng aatggacaag tccgaggtga tagttacagt gaaggttgtt 250  
 tgggtcaaac aggtgntngc atttggtctt tngttggttt catgttgccc 300  
 tttggtatctn tgattgcatt tatgtggatt ntttttgag gttatgttgc 350  
 taaagnaaaa gacatagtat accctgt 377  
 <210> 108  
 <211> 552  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 12, 25, 65, 130, 437, 537  
 <223> unknown base  
 <400> 108  
 gggaggctgt gncogttttg tttntttggc taaaatcggg ggagtgaaggc 50  
 ggcccgcgcg ggcngacac ogggttcogg gaaccattgc acgacgggggt 100  
 ggactgacct gaaaaaatg tttggatttn tagagggctt gagatgctca 150  
 gaatgcattg actgggggga aaagcgcaat actattgctt ccattgctgc 200  
 tgggtgacta ttttttacag gctggtggat tatcatagat gcagctgtta 250  
 tttatcccac catgaaagat ttcaaccact cataccatgc ctgtggtggt 300  
 atagcaacca tagccttct aatgattaat gcagtatcga atggacaagt 350  
 ccgaggtgat agttacagtg aaggttgctt ggggtcaaaca ggtgctcgca 400  
 tttggtcttt cggtggttgc atgttggtct ttggtatnct gattgcattc 450  
 atgtggattc tttttggag ttatgttgct aaagaaaaag acatagtata 500  
 ccctggaatt gctgtatttt tcagaatgc cttcatnttt tttggagggc 550

tg 552

<210> 109  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 109  
gggtggatgg tactgctgca tcc 23

<210> 110  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 110  
tggtgtgctg tgggaaatca gatgtg 26

<210> 111  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 111  
gtgtctggag gctgtggcgg ttttgttttc ttgggctaata atcggg 46

<210> 112  
<211> 3004  
<212> DNA  
<213> Homo sapiens

<400> 112  
cgacgccggc gtgatgtggc ttccgctggt gctgctcctg gctgtgctgc 50  
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ccgaatcctt tctccgaaga tgtcaaacgg cccccagcgc ccttggtaac 150  
tgacaaggag gccaggaaga aggttctcaa acaagctttt tcagccaacc 200  
aagtgcggga gaagctggat gtgggtggtaa ttggcagtgg ctttgggggg 250  
ctggctgcag ctgcaattct agctaaagct ggcaagcgag tcctggtgct 300  
ggaacaacat accaaggcag ggggctgctg tcataccttt ggaagaagt 350  
gccttgtaatt tgacacagga atccattaca ttgggcgtat ggaagagggc 400  
agcattggcc gttttatctt ggaccagatc actgaagggc agctggactg 450  
ggctcccctg tcctctcctt ttgacatcat ggtactggaa gggccaatg 500  
gcgaaaagga gtaccccatg tacagtggag agaaagccta cattcagggc 550





Cys	His	Thr	Phe	Gly	Lys	Asn	Gly	Leu	Glu	Phe	Asp	Thr	Gly	Ile
				110					115					120
His	Tyr	Ile	Gly	Arg	Met	Glu	Glu	Gly	Ser	Ile	Gly	Arg	Phe	Ile
				125					130					135
Leu	Asp	Gln	Ile	Thr	Glu	Gly	Gln	Leu	Asp	Trp	Ala	Pro	Leu	Ser
				140					145					150
Ser	Pro	Phe	Asp	Ile	Met	Val	Leu	Glu	Gly	Pro	Asn	Gly	Arg	Lys
				155					160					165
Glu	Tyr	Pro	Met	Tyr	Ser	Gly	Glu	Lys	Ala	Tyr	Ile	Gln	Gly	Leu
				170					175					180
Lys	Glu	Lys	Phe	Pro	Gln	Glu	Glu	Ala	Ile	Ile	Asp	Lys	Tyr	Ile
				185					190					195
Lys	Leu	Val	Lys	Val	Val	Ser	Ser	Gly	Ala	Pro	His	Ala	Ile	Leu
				200					205					210
Leu	Lys	Phe	Leu	Pro	Leu	Pro	Val	Val	Gln	Leu	Leu	Asp	Arg	Cys
				215					220					225
Gly	Leu	Leu	Thr	Arg	Phe	Ser	Pro	Phe	Leu	Gln	Ala	Ser	Thr	Gln
				230					235					240
Ser	Leu	Ala	Glu	Val	Leu	Gln	Gln	Leu	Gly	Ala	Ser	Ser	Glu	Leu
				245					250					255
Gln	Ala	Val	Leu	Ser	Tyr	Ile	Phe	Pro	Thr	Tyr	Gly	Val	Thr	Pro
				260					265					270
Asn	His	Ser	Ala	Phe	Ser	Met	His	Ala	Leu	Leu	Val	Asn	His	Tyr
				275					280					285
Met	Lys	Gly	Gly	Phe	Tyr	Pro	Arg	Gly	Gly	Ser	Ser	Glu	Ile	Ala
				290					295					300
Phe	His	Thr	Ile	Pro	Val	Ile	Gln	Arg	Ala	Gly	Gly	Ala	Val	Leu
				305					310					315
Thr	Lys	Ala	Thr	Val	Gln	Ser	Val	Leu	Leu	Asp	Ser	Ala	Gly	Lys
				320					325					330
Ala	Cys	Gly	Val	Ser	Val	Lys	Lys	Gly	His	Glu	Leu	Val	Asn	Ile
				335					340					345
Tyr	Cys	Pro	Ile	Val	Val	Ser	Asn	Ala	Gly	Leu	Phe	Asn	Thr	Tyr
				350					355					360
Glu	His	Leu	Leu	Pro	Gly	Asn	Ala	Arg	Cys	Leu	Pro	Gly	Val	Lys
				365					370					375
Gln	Gln	Leu	Gly	Thr	Val	Arg	Pro	Gly	Leu	Gly	Met	Thr	Ser	Val
				380					385					390
Phe	Ile	Cys	Leu	Arg	Gly	Thr	Lys	Glu	Asp	Leu	His	Leu	Pro	Ser
				395					400					405
Thr	Asn	Tyr	Tyr	Val	Tyr	Tyr	Asp	Thr	Asp	Met	Asp	Gln	Ala	Met
				410					415					420

Glu	Arg	Tyr	Val	Ser	Met	Pro	Arg	Glu	Glu	Ala	Ala	Glu	His	Ile
				425					430					435
Pro	Leu	Leu	Phe	Phe	Ala	Phe	Pro	Ser	Ala	Lys	Asp	Pro	Thr	Trp
				440					445					450
Glu	Asp	Arg	Phe	Pro	Gly	Arg	Ser	Thr	Met	Ile	Met	Leu	Ile	Pro
				455					460					465
Thr	Ala	Tyr	Glu	Trp	Phe	Glu	Glu	Trp	Gln	Ala	Glu	Leu	Lys	Gly
				470					475					480
Lys	Arg	Gly	Ser	Asp	Tyr	Glu	Thr	Phe	Lys	Asn	Ser	Phe	Val	Glu
				485					490					495
Ala	Ser	Met	Ser	Val	Val	Leu	Lys	Leu	Phe	Pro	Gln	Leu	Glu	Gly
				500					505					510
Lys	Val	Glu	Ser	Val	Thr	Ala	Gly	Ser	Pro	Leu	Thr	Asn	Gln	Phe
				515					520					525
Tyr	Leu	Ala	Ala	Pro	Arg	Gly	Ala	Cys	Tyr	Gly	Ala	Asp	His	Asp
				530					535					540
Leu	Gly	Arg	Leu	His	Pro	Cys	Val	Met	Ala	Ser	Leu	Arg	Ala	Gln
				545					550					555
Ser	Pro	Ile	Pro	Asn	Leu	Tyr	Leu	Thr	Gly	Gln	Asp	Ile	Phe	Thr
				560					565					570
Cys	Gly	Leu	Val	Gly	Ala	Leu	Gln	Gly	Ala	Leu	Leu	Cys	Ser	Ser
				575					580					585
Ala	Ile	Leu	Lys	Arg	Asn	Leu	Tyr	Ser	Asp	Leu	Lys	Asn	Leu	Asp
				590					595					600
Ser	Arg	Ile	Arg	Ala	Gln	Lys	Lys	Lys	Asn					
				605					610					

<210> 114  
 <211> 1701  
 <212> DNA  
 <213> Homo sapiens

<400> 114  
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 gatagggctg acgtgctgc tgtgtgcggt gctgtgagc ttggcctcgg 150  
 cgtcctcgga tgaagaaggc agccaggatg aatccttaga ttccaagact 200  
 actttgacat cagatgagtc agtaaaggac catactactg caggcagagt 250  
 agttgctggt caaatatttc ttgattcaga agaactctgaa ttagaatcct 300  
 ctattcaaga agaggaagac agcctcaaga gccaaaggagg ggaagtgtc 350  
 acagaagata tcagctttct agagtctcca aatccagaaa acaaggacta 400  
 tgaagagcca aagaaagtac ggaaaccagc tttagaccgc attgaaggca 450

cagcacatgg ggagccctgc cacttccctt ttcttttctt agataaggag 500  
 tatgatgaat gtacatcaga tgggagggaa gatggcagac tgtggtgtgc 550  
 tacaaacctat gactacaaag cagatgaaaa gtggggcttt tgtgaaactg 600  
 aagaagaggc tgctaagaga cggcagatgc aggaagcaga aatgatgtat 650  
 caaactggaa tgaaaatcct taatggagc aataagaaaa gccaaaaaag 700  
 agaagcatat cggtatctcc aaaaggcagc aagcatgaac cataccaaaag 750  
 ccctggagag agtgtcatat gctcttttat ttggtgatta cttgccacag 800  
 aatatccagg cagcgagaga gatgtttgag aagctgactg aggaaggtc 850  
 tcccaaggga cagactgctc ttggctttct gtatgcctct ggacttggtg 900  
 ttaattcaag tcaggcaaaag gctcttgtat attatacatt tggagctctt 950  
 gggggcaatc taatagccca catggttttg gtaagtagac tttagtggaa 1000  
 ggctaataat attaacatca gaagaatttg tggtttatag cggccacaac 1050  
 ttttcoagct ttoatgatcc agatttgctt gtattaagac caaatattca 1100  
 gttgaacttc ottcaaattc ttgttaatgg atataacaca tggaatctac 1150  
 atgtaaatga aagttggtgg agtccacaat ttttctttaa aatgattagt 1200  
 ttggctgatt gccctaaaa agagagatct gataaatggc tcttttttaa 1250  
 ttttctctga gttggaattg tcagaatcat tttttacatt agattatcat 1300  
 aattttaaaa atttttcttt agttttcaa aattttgtaa atgggtggcta 1350  
 tagaaaaaca acatgaaata ttatacaata ttttgcaaca atgccttaag 1400  
 aattgttaaa attcatggag ttatttgtgc agaatgaact cagagagctc 1450  
 tactttctgt tttttacttt tcatgattgg ctgtcttccc atttattctg 1500  
 gtcatttatt gctagtgaac ctgtgcctgc ttccagtagt ctcatattcc 1550  
 ctattttgct aatttgttac tttttctttg ctaatttgga agattaactc 1600  
 atttttaata aaattatgtc taagattaaa aaaaaaaaaa aaaaaaaaaa 1650  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1700

a 1701

<210> 115  
 <211> 301  
 <212> PRT  
 <213> Homo sapiens

<400> 115  
 Met Arg Val Arg Ile Gly Leu Thr Leu Leu Cys Ala Val Leu  
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 Leu Ser Leu Ala Ser Ala Ser Ser Asp Glu Glu Gly Ser Gln Asp  
 20 25 30



Glu Ser Leu Asp Ser Lys Thr Thr Leu Thr Ser Asp Glu Ser Val  
 35 40 45  
 Lys Asp His Thr Thr Ala Gly Arg Val Val Ala Gly Gln Ile Phe  
 50 55 60  
 Leu Asp Ser Glu Glu Ser Glu Leu Glu Ser Ser Ile Gln Glu Glu  
 65 70 75  
 Glu Asp Ser Leu Lys Ser Gln Glu Gly Glu Ser Val Thr Glu Asp  
 80 85 90  
 Ile Ser Phe Leu Glu Ser Pro Asn Pro Glu Asn Lys Asp Tyr Glu  
 95 100 105  
 Glu Pro Lys Lys Val Arg Lys Pro Ala Leu Thr Ala Ile Glu Gly  
 110 115 120  
 Thr Ala His Gly Glu Pro Cys His Phe Pro Phe Leu Phe Leu Asp  
 125 130 135  
 Lys Glu Tyr Asp Glu Cys Thr Ser Asp Gly Arg Glu Asp Gly Arg  
 140 145 150  
 Leu Trp Cys Ala Thr Thr Tyr Asp Tyr Lys Ala Asp Glu Lys Trp  
 155 160 165  
 Gly Phe Cys Glu Thr Glu Glu Glu Ala Ala Lys Arg Arg Gln Met  
 170 175 180  
 Gln Glu Ala Glu Met Met Tyr Gln Thr Gly Met Lys Ile Leu Asn  
 185 190 195  
 Gly Ser Asn Lys Lys Ser Gln Lys Arg Glu Ala Tyr Arg Tyr Leu  
 200 205 210  
 Gln Lys Ala Ala Ser Met Asn His Thr Lys Ala Leu Glu Arg Val  
 215 220 225  
 Ser Tyr Ala Leu Leu Phe Gly Asp Tyr Leu Pro Gln Asn Ile Gln  
 230 235 240  
 Ala Ala Arg Glu Met Phe Glu Lys Leu Thr Glu Glu Gly Ser Pro  
 245 250 255  
 Lys Gly Gln Thr Ala Leu Gly Phe Leu Tyr Ala Ser Gly Leu Gly  
 260 265 270  
 Val Asn Ser Ser Gln Ala Lys Ala Leu Val Tyr Tyr Thr Phe Gly  
 275 280 285  
 Ala Leu Gly Gly Asn Leu Ile Ala His Met Val Leu Val Ser Arg  
 290 295 300  
 Leu

<210> 116  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens  
 <400> 116

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 ttctacttgc ctgcctccct gcctctggcc atggcctgcc ggtgcctcag 100  
 cttcctttctg atggggacct tcctgtcagt tcccagaca gtctgggcc 150  
 agctggatgc actgtgtgtc tcccaggcc aagtgggtca actctctgc 200  
 acgtctagcc ccagcacgt caccatcagg gactacgggtg tgtctcgtga 250  
 ccagcagogg gcaggcagtg cccctcgata tctctctac taccgtctgg 300  
 aggaggatca ccacgggcct gctgacatcc ccgatcgatt ctgcgcagcc 350  
 aaggatgagg cccacaatgc ctgtgtcctc accattagtc ccgtgcagcc 400  
 tgaagacgac gcggattact actgctctgt tggctacggc tttagtcctc 450  
 aggggtgggg tgtgagatgg gtgcctcccc tctgcctccc atttctgccc 500  
 ctgaccttgg gtccctttta aactttctct gacgcttgct tcccctctgt 550  
 aaaatggggtt aataatattc aacatgtcaa caac 584

<210> 117  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 117  
 Met Ala Cys Arg Cys Leu Ser Phe Leu Leu Met Gly Thr Phe Leu  
 1 5 10 15  
 Ser Val Ser Gln Thr Val Leu Ala Gln Leu Asp Ala Leu Leu Val  
 20 25 30  
 Phe Pro Gly Gln Val Ala Gln Leu Ser Cys Thr Leu Ser Pro Gln  
 35 40 45  
 His Val Thr Ile Arg Asp Tyr Gly Val Ser Trp Tyr Gln Gln Arg  
 50 55 60  
 Ala Gly Ser Ala Pro Arg Tyr Leu Leu Tyr Tyr Arg Ser Glu Glu  
 65 70 75  
 Asp His His Arg Pro Ala Asp Ile Pro Asp Arg Phe Ser Ala Ala  
 80 85 90  
 Lys Asp Glu Ala His Asn Ala Cys Val Leu Thr Ile Ser Pro Val  
 95 100 105  
 Gln Pro Glu Asp Asp Ala Asp Tyr Tyr Cys Ser Val Gly Tyr Gly  
 110 115 120  
 Phe Ser Pro

<210> 118  
 <211> 3402  
 <212> DNA  
 <213> Homo sapiens  
 <400> 118

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 ccccgccgcc cgcgcgtga gcccccgcc gaggtccgga caggccgaga 150  
 tgacgccgag cccctgttg ctgctcctg tgccgcgcgt gctgctgggg 200  
 gccttccac cgccgcgcgc cgcccgaggc ccccaaaga tggcggacaa 250  
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 gccagtgga gggggaccgc ccgccgtga ccatgtggac caagtagggc 350  
 cgcaccatcc acagcggctg gagccgctc cgcgtgctgc cgcaggggct 400  
 gaaggtgaag caggtggagc gggaggatgc cggcgtgtac gtgtgcaagg 450  
 ccaccaacgg ctctgcgagc ctgagcgtca actacacctc cgtcgtgctg 500  
 gatgacatta gcccaggga ggagagcctg gggcccgaca gtcctctcgg 550  
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 gtgcggctca agtgctggc cagcgggcac cctcgccccg acatcacgtg 700  
 gatgaaggac gaccaggcct tgacgcgcgc agaggccgct gagccagga 750  
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 aaatacacct gccgcgtgtc gaacgcgcgc ggcgcacatc acgccaccta 850  
 caaggtgat gtgatccagc ggacccgttc caagcccgct ctcacaggca 900  
 cgcaccccggt gaacacgagc gtggaattcg gggggaacc gtccttcagg 950  
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 ggagtacggc gccgagggcc gccacaactc caccatcgat gtgggcggcc 1050  
 agaagtttgt ggtgctgcc acgggtgacg tgtggtcgcg gcccgacggc 1100  
 tcctacctca ataagctgct catcacccgt gcccgccagg acgatgcggg 1150  
 catgtacatc tgccttggcg ccaacacccat gggctacagc ttcgcagcg 1200  
 ccttcctcac cgtgctgcc gacccaaaac cgcacgggcc acctgtggcc 1250  
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 cggacacaca cgtgcacaga tatgtgcct ggacacacag ataatgtctg 2150  
 cttgacacac acatgcacgg atattgcctg gacacacaca cacacacag 2200  
 cgtgcacaga tatgtgtct ggacacgcac acacatgcag atatgtctgc 2250  
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 cacacaggtg cagatatgct gcctggacac acgcagactg acgtgtcttt 2850  
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gaaggaagac tgggttgac ggactgtgt ctctcctggg gcccgggacc 3250  
 cgcttggtct ttcagccatg ctgatgacca caccocgtcc aggccagaca 3300  
 ccacccccca ccccaactgtc gtggtggccc cagatctctg taattttatg 3350  
 tagagtttga gctgaagccc cgtatatatta atttattttg ttaaacacaa 3400  
 aa 3402

<210> 119  
 <211> 504  
 <212> PRT  
 <213> Homo sapiens

<400> 119  
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 Leu Gly Ala Phe Pro Pro Ala Ala Ala Ala Arg Gly Pro Pro Lys  
 20 25 30  
 Met Ala Asp Lys Val Val Pro Arg Gln Val Ala Arg Leu Gly Arg  
 35 40 45  
 Thr Val Arg Leu Gln Cys Pro Val Glu Gly Asp Pro Pro Pro Leu  
 50 55 60  
 Thr Met Trp Thr Lys Asp Gly Arg Thr Ile His Ser Gly Trp Ser  
 65 70 75  
 Arg Phe Arg Val Leu Pro Gln Gly Leu Lys Val Lys Gln Val Glu  
 80 85 90  
 Arg Glu Asp Ala Gly Val Tyr Val Cys Lys Ala Thr Asn Gly Phe  
 95 100 105  
 Gly Ser Leu Ser Val Asn Tyr Thr Leu Val Val Leu Asp Asp Ile  
 110 115 120  
 Ser Pro Gly Lys Glu Ser Leu Gly Pro Asp Ser Ser Ser Gly Gly  
 125 130 135  
 Gln Glu Asp Pro Ala Ser Gln Gln Trp Ala Arg Pro Arg Phe Thr  
 140 145 150  
 Gln Pro Ser Lys Met Arg Arg Arg Val Ile Ala Arg Pro Val Gly  
 155 160 165  
 Ser Ser Val Arg Leu Lys Cys Val Ala Ser Gly His Pro Arg Pro  
 170 175 180  
 Asp Ile Thr Trp Met Lys Asp Asp Gln Ala Leu Thr Arg Pro Glu  
 185 190 195  
 Ala Ala Glu Pro Arg Lys Lys Lys Trp Thr Leu Ser Leu Lys Asn  
 200 205 210  
 Leu Arg Pro Glu Asp Ser Gly Lys Tyr Thr Cys Arg Val Ser Asn  
 215 220 225  
 Arg Ala Gly Ala Ile Asn Ala Thr Tyr Lys Val Asp Val Ile Gln  
 230 235 240

Arg Thr Arg Ser	Lys Pro Val Leu Thr	Gly Thr His Pro Val Asn
245		250
Thr Thr Val Asp	Phe Gly Gly Thr Thr	Ser Phe Gln Cys Lys Val
260		270
Arg Ser Asp Val	Lys Pro Val Ile Gln	Trp Leu Lys Arg Val Glu
275		285
Tyr Gly Ala Glu	Gly Arg His Asn Ser	Thr Ile Asp Val Gly Gly
290		295
Gln Lys Phe Val	Val Leu Pro Thr Gly	Asp Val Trp Ser Arg Pro
305		310
Asp Gly Ser Tyr	Leu Asn Lys Leu Leu	Ile Thr Arg Ala Arg Gln
320		325
Asp Asp Ala Gly	Met Tyr Ile Cys Leu	Gly Ala Asn Thr Met Gly
335		340
Tyr Ser Phe Arg	Ser Ala Phe Leu Thr	Val Leu Pro Asp Pro Lys
350		355
Pro Pro Gly Pro	Pro Val Ala Ser Ser	Ser Ser Ala Thr Ser Leu
365		370
Pro Trp Pro Val	Val Ile Gly Ile Pro	Ala Gly Ala Val Phe Ile
380		385
Leu Gly Thr Leu	Leu Leu Trp Leu Cys	Gln Ala Gln Lys Lys Pro
395		400
Cys Thr Pro Ala	Pro Ala Pro Pro Leu	Pro Gly His Arg Pro Pro
410		415
Gly Thr Ala Arg	Asp Arg Ser Gly Asp	Lys Asp Leu Pro Ser Leu
425		430
Ala Ala Leu Ser	Ala Gly Pro Gly Val	Gly Leu Cys Glu Glu His
440		445
Gly Ser Pro Ala	Ala Pro Gln His Leu	Leu Gly Pro Gly Pro Val
455		460
Ala Gly Pro Lys	Leu Tyr Pro Lys Leu	Tyr Thr Asp Ile His Thr
470		475
His Thr His Thr	His Ser His Thr His	Ser His Val Glu Gly Lys
485		490
Val His Gln His	Ile His Tyr Gln Cys	
500		

<210> 120

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 120

cgagatgacg cagagcccc 20

<210> 121

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 121

cggttcgaca cgcggcaggt g 21

<210> 122

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 122

tgctgctcct gctgccgccc ctgctgctgg gggccttccc gccgg 45

<210> 123

<211> 4420

<212> DNA

<213> Homo sapiens

<400> 123

cccagctgag gagccctgct caagacacgg tcaactggatc tgagaaactt 50

cccaggggac cgcattccag agtcagtgc tctgtgaagc acccacatct 100

acctcttgcc acgttccac gggcttgggg gaaagatggt ggggaccaag 150

gcctgggtgt tctccttccct ggtcctggaa gtcacatctg tgttggggag 200

acagacgatg ctcacccagt cagtaagaag agtccagcct gggaagaaga 250

accccagcat ctttgccaag cctgccgaca ccctggagag ccctggtgag 300

tggacaacat ggttoaacat cgactaccca ggcgggaagg gcgactatga 350

gcggctggac gccattogct tetactatgg ggaacctgta tgtgcccgct 400

ccctgcggct agaggctcgg accactgact ggacacctgc gggcagcact 450

ggccaggtgg tccatggtag tcccctgtag ggtttctggt gcctcaacag 500

ggagcagcgg cctggccaga actgctctaa ttacaccgta cgcttctctt 550

gcccaccagg atccctgcgc cgagacacag agcgcatctg gagcccatgg 600

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tcgcacacgc atttgcttgg cagagatggt gtgcgtgtgc agtgaggcca 700

gcgaagaggg tcagcactgc atgggccagg actgtacagc ctgtgacctg 750

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 <212> PRT  
 <213> Homo sapiens

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 35 40 45  
 Pro Ala Asp Thr Leu Glu Ser Pro Gly Glu Trp Thr Thr Trp Phe  
 50 55 60  
 Asn Ile Asp Tyr Pro Gly Gly Lys Gly Asp Tyr Glu Arg Leu Asp  
 65 70 75  
 Ala Ile Arg Phe Tyr Tyr Gly Asp Arg Val Cys Ala Arg Pro Leu  
 80 85 90  
 Arg Leu Glu Ala Arg Thr Thr Asp Trp Thr Pro Ala Gly Ser Thr  
 95 100 105  
 Gly Gln Val Val His Gly Ser Pro Arg Glu Gly Phe Trp Cys Leu  
 110 115 120  
 Asn Arg Glu Gln Arg Pro Gly Gln Asn Cys Ser Asn Tyr Thr Val  
 125 130 135  
 Arg Phe Leu Cys Pro Pro Gly Ser Leu Arg Arg Asp Thr Glu Arg  
 140 145 150  
 Ile Trp Ser Pro Trp Ser Pro Trp Ser Lys Cys Ser Ala Ala Cys  
 155 160 165  
 Gly Gln Thr Gly Val Gln Thr Arg Thr Arg Ile Cys Leu Ala Glu  
 170 175 180  
 Met Val Ser Leu Cys Ser Glu Ala Ser Glu Glu Gly Gln His Cys  
 185 190 195  
 Met Gly Gln Asp Cys Thr Ala Cys Asp Leu Thr Cys Pro Met Gly  
 200 205 210

Gln Val Asn Ala	Asp Cys Asp Ala Cys	Met Cys Gln Asp Phe	Met
	215	220	225
Leu His Gly Ala	Val Ser Leu Pro Gly	Gly Ala Pro Ala Ser	Gly
	230	235	240
Ala Ala Ile Tyr	Leu Leu Thr Lys Thr	Pro Lys Leu Leu Thr	Gln
	245	250	255
Thr Asp Ser Asp	Gly Arg Phe Arg Ile	Pro Gly Leu Cys Pro	Asp
	260	265	270
Gly Lys Ser Ile	Leu Lys Ile Thr Lys	Val Lys Phe Ala Pro	Ile
	275	280	285
Val Leu Thr Met	Pro Lys Thr Ser Leu	Lys Ala Ala Thr Ile	Lys
	290	295	300
Ala Glu Phe Val	Arg Ala Glu Thr Pro	Tyr Met Val Met Asn	Pro
	305	310	315
Glu Thr Lys Ala	Arg Arg Ala Gly Gln	Ser Val Ser Leu Cys	Cys
	320	325	330
Lys Ala Thr Gly	Lys Pro Arg Pro Asp	Lys Tyr Phe Trp Tyr	His
	335	340	345
Asn Asp Thr Leu	Leu Asp Pro Ser Leu	Tyr Lys His Glu Ser	Lys
	350	355	360
Leu Val Leu Arg	Lys Leu Gln Gln His	Gln Ala Gly Glu Tyr	Phe
	365	370	375
Cys Lys Ala Gln	Ser Asp Ala Gly Ala	Val Lys Ser Lys Val	Ala
	380	385	390
Gln Leu Ile Val	Thr Ala Ser Asp Glu	Thr Pro Cys Asn Pro	Val
	395	400	405
Pro Glu Ser Tyr	Leu Ile Arg Leu Pro	His Asp Cys Phe Gln	Asn
	410	415	420
Ala Thr Asn Ser	Phe Tyr Tyr Asp Val	Gly Arg Cys Pro Val	Lys
	425	430	435
Thr Cys Ala Gly	Gln Gln Asp Asn Gly	Ile Arg Cys Arg Asp	Ala
	440	445	450
Val Gln Asn Cys	Cys Gly Ile Ser Lys	Thr Glu Glu Arg Glu	Ile
	455	460	465
Gln Cys Ser Gly	Tyr Thr Leu Pro Thr	Lys Val Ala Lys Glu	Cys
	470	475	480
Ser Cys Gln Arg	Cys Thr Glu Thr Arg	Ser Ile Val Arg Gly	Arg
	485	490	495
Val Ser Ala Ala	Asp Asn Gly Glu Pro	Met Arg Phe Gly His	Val
	500	505	510
Tyr Met Gly Asn	Ser Arg Val Ser Met	Thr Gly Tyr Lys Gly	Thr
	515	520	525

Phe Thr Leu His Val Pro Gln Asp Thr Glu Arg Leu Val Leu Thr	530	535	540
Phe Val Asp Arg Leu Gln Lys Phe Val Asn Thr Thr Lys Val Leu	545	550	555
Pro Phe Asn Lys Lys Gly Ser Ala Val Phe His Glu Ile Lys Met	560	565	570
Leu Arg Arg Lys Glu Pro Ile Thr Leu Glu Ala Met Glu Thr Asn	575	580	585
Ile Ile Pro Leu Gly Glu Val Val Gly Glu Asp Pro Met Ala Glu	590	595	600
Leu Glu Ile Pro Ser Arg Ser Phe Tyr Arg Gln Asn Gly Glu Pro	605	610	615
Tyr Ile Gly Lys Val Lys Ala Ser Val Thr Phe Leu Asp Pro Arg	620	625	630
Asn Ile Ser Thr Ala Thr Ala Ala Gln Thr Asp Leu Asn Phe Ile	635	640	645
Asn Asp Glu Gly Asp Thr Phe Pro Leu Arg Thr Tyr Gly Met Phe	650	655	660
Ser Val Asp Phe Arg Asp Glu Val Thr Ser Glu Pro Leu Asn Ala	665	670	675
Gly Lys Val Lys Val His Leu Asp Ser Thr Gln Val Lys Met Pro	680	685	690
Glu His Ile Ser Thr Val Lys Leu Trp Ser Leu Asn Pro Asp Thr	695	700	705
Gly Leu Trp Glu Glu Glu Gly Asp Phe Lys Phe Glu Asn Gln Arg	710	715	720
Arg Asn Lys Arg Glu Asp Arg Thr Phe Leu Val Gly Asn Leu Glu	725	730	735
Ile Arg Glu Arg Arg Leu Phe Asn Leu Asp Val Pro Glu Ser Arg	740	745	750
Arg Cys Phe Val Lys Val Arg Ala Tyr Arg Ser Glu Arg Phe Leu	755	760	765
Pro Ser Glu Gln Ile Gln Gly Val Val Ile Ser Val Ile Asn Leu	770	775	780
Glu Pro Arg Thr Gly Phe Leu Ser Asn Pro Arg Ala Trp Gly Arg	785	790	795
Phe Asp Ser Val Ile Thr Gly Pro Asn Gly Ala Cys Val Pro Ala	800	805	810
Phe Cys Asp Asp Gln Ser Pro Asp Ala Tyr Ser Ala Tyr Val Leu	815	820	825
Ala Ser Leu Ala Gly Glu Glu Leu Gln Ala Val Glu Ser Ser Pro	830	835	840

Lys Phe Asn Pro	Asn Ala Ile Gly Val	Pro Gln Pro Tyr Leu Asn
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Lys Leu Asn Tyr	Arg Arg Thr Asp His	Glu Asp Pro Arg Val Lys
860	865	870
Lys Thr Ala Phe	Gln Ile Ser Met Ala	Lys Pro Arg Pro Asn Ser
875	880	885
Ala Glu Glu Ser	Asn Gly Pro Ile Tyr	Ala Phe Glu Asn Leu Arg
890	895	900
Ala Cys Glu Glu	Ala Pro Pro Ser Ala	Ala His Phe Arg Phe Tyr
905	910	915
Gln Ile Glu Gly	Asp Arg Tyr Asp Tyr	Asn Thr Val Pro Phe Asn
920	925	930
Glu Asp Asp Pro	Met Ser Trp Thr	Glu Asp Tyr Leu Ala Trp Trp
935	940	945
Pro Lys Pro Met	Glu Phe Arg Ala Cys	Tyr Ile Lys Val Lys Ile
950	955	960
Val Gly Pro Leu	Glu Val Asn Val Arg	Ser Arg Asn Met Gly Gly
965	970	975
Thr His Arg Arg	Thr Val Gly Lys Leu	Tyr Gly Ile Arg Asp Val
980	985	990
Arg Ser Thr Arg	Asp Arg Asp Gln Pro	Asn Val Ser Ala Ala Cys
995	1000	1005
Leu Glu Phe Lys	Cys Ser Gly Met Leu	Tyr Asp Gln Asp Arg Val
1010	1015	1020
Asp Arg Thr Leu	Val Lys Val Ile Pro	Gln Gly Ser Cys Arg Arg
1025	1030	1035
Ala Ser Val Asn	Pro Met Leu His Glu	Tyr Leu Val Asn His Leu
1040	1045	1050
Pro Leu Ala Val	Asn Asn Asp Thr Ser	Glu Tyr Thr Met Leu Ala
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Pro Leu Asp Pro	Leu Gly His Asn Tyr	Gly Ile Tyr Thr Val Thr
1070	1075	1080
Asp Gln Asp Pro	Arg Thr Ala Lys Glu	Ile Ala Leu Gly Arg Cys
1085	1090	1095
Phe Asp Gly Thr	Ser Asp Gly Ser Ser	Arg Ile Met Lys Ser Asn
1100	1105	1110
Val Gly Val Ala	Leu Thr Phe Asn Cys	Val Glu Arg Gln Val Gly
1115	1120	1125
Arg Gln Ser Ala	Phe Gln Tyr Leu Gln	Ser Thr Pro Ala Gln Ser
1130	1135	1140
Pro Ala Ala Gly	Thr Val Gln Gly Arg	Val Pro Ser Arg Arg Gln
1145	1150	1155

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<400> 125  
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<210> 126  
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<220>  
 <223> Synthetic oligonucleotide probe

<400> 126  
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<210> 127  
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 <223> Synthetic oligonucleotide probe

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<210> 128  
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 <212> DNA  
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 <211> 438  
 <212> PRT  
 <213> Homo sapiens

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 50 55 60  
 Leu Lys Val Lys Leu Asp Pro Pro Asp Ile Thr Cys Gly Asp Pro  
 65 70 75  
 Pro Glu Thr Phe Cys Ala Met Gly Asn Pro Tyr Met Cys Asn Asn  
 80 85 90  
 Glu Cys Asp Ala Ser Thr Pro Glu Leu Ala His Pro Pro Glu Leu  
 95 100 105  
 Met Phe Asp Phe Glu Gly Arg His Pro Ser Thr Phe Trp Gln Ser  
 110 115 120  
 Ala Thr Trp Lys Glu Tyr Pro Lys Pro Leu Gln Val Asn Ile Thr



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Leu Ser Trp Ser	Lys Thr Ile Glu Leu	Thr Asp Asn Ile Val	Ile		
	140	145	150		
Thr Phe Glu Ser	Gly Arg Pro Asp Gln	Met Ile Leu Glu Lys	Ser		
	155	160	165		
Leu Asp Tyr Gly	Arg Thr Trp Gln Pro	Tyr Gln Tyr Tyr Ala	Thr		
	170	175	180		
Asp Cys Leu Asp	Ala Phe His Met Asp	Pro Lys Ser Val Lys	Asp		
	185	190	195		
Leu Ser Gln His	Thr Val Leu Glu Ile	Ile Cys Thr Glu Glu	Tyr		
	200	205	210		
Ser Thr Gly Tyr	Thr Thr Asn Ser Lys	Ile Ile His Phe Glu	Ile		
	215	220	225		
Lys Asp Arg Phe	Ala Leu Phe Ala Gly	Pro Arg Leu Arg Asn	Met		
	230	235	240		
Ala Ser Leu Tyr	Gly Gln Leu Asp Thr	Thr Lys Lys Leu Arg	Asp		
	245	250	255		
Phe Phe Thr Val	Thr Asp Leu Arg Ile	Arg Leu Leu Arg Pro	Ala		
	260	265	270		
Val Gly Glu Ile	Phe Val Asp Glu Leu	His Leu Ala Arg Tyr	Phe		
	275	280	285		
Tyr Ala Ile Ser	Asp Ile Lys Val Arg	Gly Arg Cys Lys Cys	Asn		
	290	295	300		
Leu His Ala Thr	Val Cys Val Tyr Asp	Asn Ser Lys Leu Thr	Cys		
	305	310	315		
Glu Cys Glu His	Asn Thr Thr Gly Pro	Asp Cys Gly Lys Cys	Lys		
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Lys Asn Tyr Gln	Gly Arg Pro Trp Ser	Pro Gly Ser Tyr Leu	Pro		
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Ile Gly Thr Asn	Val Cys Asp Asn Glu	Leu Leu His Cys Gln	Asn		
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Gly Gly Thr Cys	His Asn Asn Val Arg	Cys Leu Cys Pro Ala	Ala		
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Tyr Thr Gly Ile	Leu Cys Glu Lys Leu	Arg Cys Glu Glu Ala	Gly		
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Pro Ala Leu Leu	Leu Leu Thr Thr Leu	Leu Gly Thr Ala Ser	Pro		
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Leu Val Phe					



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 gatattgatcc ccaggattc tattttgctt aatgggcttt tctactaaaa 1200  
 gcataaaata ctgaggctga ttagtcagg gcaaaacat ttactttaca 1250  
 tattcgtttt caataactgc tggtcatgtt acacaagctt cttacggttt 1300  
 tcttgtaaca ataaatattt tgagtaaaata atgggtacat ttaacaaac 1350  
 tcagtagtac aacctaaact tgtataaaag tgtgtaaaaa tgtatagcca 1400  
 ttatatcct atgtataaat taaatgaggt ggcttcagaa atggcagaa 1450  
 aaatctaaag tgtttattaa aaaaaaaaaa aaaaaaaaaa aag 1493

<210> 135  
 <211> 228  
 <212> PRT  
 <213> Homo sapiens

<400> 135  
 Met Ser Val Ile Phe Phe Ala Cys Val Val Arg Val Arg Asp Gly  
 1 5 10 15  
 Leu Pro Leu Ser Ala Ser Thr Asp Phe Tyr His Thr Gln Asp Phe  
 20 25 30  
 Leu Glu Trp Arg Arg Arg Leu Lys Ser Leu Ala Leu Arg Leu Ala  
 35 40 45

Gln	Tyr	Pro	Gly	Arg	Gly	Ser	Ala	Glu	Gly	Cys	Asp	Phe	Ser	Ile
				50					55					60
His	Phe	Ser	Ser	Phe	Gly	Asp	Val	Ala	Cys	Met	Ala	Ile	Cys	Ser
				65					70					75
Cys	Gln	Cys	Pro	Ala	Ala	Met	Ala	Phe	Cys	Phe	Leu	Glu	Thr	Leu
				80					85					90
Trp	Trp	Glu	Phe	Thr	Ala	Ser	Tyr	Asp	Thr	Thr	Cys	Ile	Gly	Leu
				95					100					105
Ala	Ser	Arg	Pro	Tyr	Ala	Phe	Leu	Glu	Phe	Asp	Ser	Ile	Ile	Gln
				110					115					120
Lys	Val	Lys	Trp	His	Phe	Asn	Tyr	Val	Ser	Ser	Ser	Gln	Met	Glu
				125					130					135
Cys	Ser	Leu	Glu	Lys	Ile	Gln	Glu	Glu	Leu	Lys	Leu	Gln	Pro	Pro
				140					145					150
Ala	Val	Leu	Thr	Leu	Glu	Asp	Thr	Asp	Val	Ala	Asn	Gly	Val	Met
				155					160					165
Asn	Gly	His	Thr	Pro	Met	His	Leu	Glu	Pro	Ala	Pro	Asn	Phe	Arg
				170					175					180
Met	Glu	Pro	Val	Thr	Ala	Leu	Gly	Ile	Leu	Ser	Leu	Ile	Leu	Asn
				185					190					195
Ile	Met	Cys	Ala	Ala	Leu	Asn	Leu	Ile	Arg	Gly	Val	His	Leu	Ala
				200					205					210
Glu	His	Ser	Leu	Gln	Asp	Pro	Arg	Ser	Trp	Phe	Cys	Trp	Leu	Asp
				215					220					225
Gln	Thr	Ser												

<210> 136  
 <211> 239  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 39, 61, 143, 209  
 <223> unknown base

<400> 136  
 tgcttcctg agaccctgtg gtgggaattc acagcttcnt atgacactac 50  
 ctgcattggc ntaccctcca ggccatacgc ttttcttgag tttgacagca 100  
 tcattcagaa agtgaagtgg cattttaact atgtaagtgc cnttcagatg 150  
 gagtgcagct tggaaaaaat tcaggaggag ctcaagttgc agcctccagc 200  
 ggttctcant atggaggaca cagatgtggc aaatgggggt 239

<210> 137  
 <211> 2300  
 <212> DNA

<213> Homo sapiens

<400> 137

ctcagcggcg cttcctcgtg gcgagcctag tggcgggtgt ttgcattgaa 50  
acgtgagcgc gacccgacct taaagagtgg ggagcaaagg gaggacagag 100  
ccctttaaaa cgaggcgggt ggtgcctgcc cctttaaggg cggggcgctcc 150  
ggcagactgt atctgagccc cagactgcc cgagtttctg tcgcaggctg 200  
cgaggaaagg cccctaggtt gggctctgggt gcttggcggc ggcggcttcc 250  
tccccgctcg tcctcccggg gcccgaggc acctcggctt cagtcatgct 300  
gagcagagta tggaagcacc tgactacgaa gtgctatccg tgcgagaaca 350  
gtattccac gagaggatcc gcgagtgtat tataatcaaca cttctgtttg 400  
caacactgta cctcctctgc cacatcttcc tgaccgcctt caagaagcct 450  
gtgtagttca ccacagtgga tgatgaagat gccacogtca acaagatttg 500  
gtcgagctg tgcaccttta ccctggcaat tgccctgggt gctgtcctgc 550  
tcctgcctt ctccatcctc agcaatgagg tgctgctctc cctgcctcgg 600  
aactactaca tcagtggtt caacggctcc ctcatccatg gcctctggaa 650  
ccttgttttt ctcttcccca acctgtccct catcttctc atgcccttg 700  
catatttctt cactgagtct gagggtcttg ctggctccag aaaggggtgc 750  
ctgggccggg tctatgagac agtgggtgat ttgatgtcc tcaactgtgt 800  
ggtgtaggt atggtgtggg tggcatcagc cattgtggac aagaacaagg 850  
ccaacagaga gtactctat gacttttggg agtactatct cccctacctc 900  
tactcatgca tctccttctt tgggttctg ctgctcctgg tgtgtactcc 950  
actgggtctc gcccgcatgt tctccgtcac tgggaagctg ctagtcaagc 1000  
cccggtctgt ggaagacctg gaggagcagc tgtactgtct agcctttgag 1050  
gaggcagccc tgaccgcag gatctgtaat cctacttctt gctgggtgcc 1100  
tttagacatg gagctgctac acagacaggt cctggctctg cagacacaga 1150  
gggtctgtgt ggagaagagg cggaaggctt cagcctggca acggaacctg 1200  
ggctaccccc tggctatgct gtgcttctgt gtgctgacgg gcctgtctgt 1250  
gctcattgtg gccatccaca tcctggagct gctcatcgat gaggctgcc 1300  
tgccccgagg catgcagggt acctccttag gccaggctct cttctccaag 1350  
ctgggtcctt ttggtgccgt cattcaggtt gtaactatct tttaactaat 1400  
ggtgtctca gttgtgggtt tctatagctc tccactcttc cggagcctgc 1450  
ggcccagatg gcaacgacct gccatgacgc agataattgg gaactgtgtc 1500

gtgtctctg tcttaagctc agcacttcct gtcttctctc gaacctctgg 1550  
 gctcactcgc tttagactgc tgggtgactt tggacgcttc aactggctgg 1600  
 gcaatttcta cattgtgttc ctctacaacg cagcctttgc aggcctcacc 1650  
 acactctgtc tgggtgaagac cttcactgca gctgtgctgg cagagctgat 1700  
 cggggccttt gggctggaca gactgccgct gccgctctcc ggtttccccc 1750  
 aggcacttag gaagaccag caccagtgc ctccagctgg ggggtgggaag 1800  
 gaaaaaactg gacactgcca tctgtctgct aggcctggag ggaagcccaa 1850  
 ggctacttgg aactcaggac ctggaatctg agaggggtgg tggcagaggg 1900  
 gagcagagcc atctgcacta ttgcataatc tgagccagag tttgggacca 1950  
 ggacctctg cttttccata cttaactgtg gcctcagcat ggggttagggc 2000  
 tgggtgactg ggtctagccc ctgatcccaa atctgtttac acatcaatct 2050  
 gcctcactgc tgttctgggc catccccata gccatgttta catgatttga 2100  
 tgtgcaatag ggtggggtag gggcagggaa aggactgggc cagggcaggg 2150  
 tcgggagata gattgtctcc cttgcctctg gccagcaga gcctaagcac 2200  
 tgtgctatcc tggaggggct ttggaccacc tgaaagacca aggggatagg 2250  
 gaggaggagg cttcagccat cagcaataaa gttgatccca gggaaaaaaa 2300

<210> 138

<211> 489

<212> PRT

<213> Homo sapiens

<400> 138

Met	Glu	Ala	Pro	Asp	Tyr	Glu	Val	Leu	Ser	Val	Arg	Glu	Gln	Leu
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Phe	His	Glu	Arg	Ile	Arg	Glu	Cys	Ile	Ile	Ser	Thr	Leu	Leu	Phe
			20						25					30
Ala	Thr	Leu	Tyr	Ile	Leu	Cys	His	Ile	Phe	Leu	Thr	Arg	Phe	Lys
			35						40					45
Lys	Pro	Ala	Glu	Phe	Thr	Thr	Val	Asp	Asp	Glu	Asp	Ala	Thr	Val
			50						55					60
Asn	Lys	Ile	Ala	Leu	Glu	Leu	Cys	Thr	Phe	Thr	Leu	Ala	Ile	Ala
			65						70					75
Leu	Gly	Ala	Val	Leu	Leu	Leu	Pro	Phe	Ser	Ile	Ile	Ser	Asn	Glu
			80						85					90
Val	Leu	Leu	Ser	Leu	Pro	Arg	Asn	Tyr	Tyr	Ile	Gln	Trp	Leu	Asn
			95						100					105
Gly	Ser	Leu	Ile	His	Gly	Leu	Trp	Asn	Leu	Val	Phe	Leu	Phe	Pro
			110						115					120
Asn	Leu	Ser	Leu	Ile	Phe	Leu	Met	Pro	Phe	Ala	Tyr	Phe	Phe	Thr

	125		130		135
Glu Ser Glu Gly Phe Ala Gly Ser Arg Lys Gly Val Leu Gly Arg	140		145		150
Val Tyr Glu Thr Val Val Met Leu Met Leu Leu Thr Leu Leu Val	155		160		165
Leu Gly Met Val Trp Val Ala Ser Ala Ile Val Asp Lys Asn Lys	170		175		180
Ala Asn Arg Glu Ser Leu Tyr Asp Phe Trp Glu Tyr Tyr Leu Pro	185		190		195
Tyr Leu Tyr Ser Cys Ile Ser Phe Leu Gly Val Leu Leu Leu Leu	200		205		210
Val Cys Thr Pro Leu Gly Leu Ala Arg Met Phe Ser Val Thr Gly	215		220		225
Lys Leu Leu Val Lys Pro Arg Leu Leu Glu Asp Leu Glu Glu Gln	230		235		240
Leu Tyr Cys Ser Ala Phe Glu Glu Ala Ala Leu Thr Arg Arg Ile	245		250		255
Cys Asn Pro Thr Ser Cys Trp Leu Pro Leu Asp Met Glu Leu Leu	260		265		270
His Arg Gln Val Leu Ala Leu Gln Thr Gln Arg Val Leu Leu Glu	275		280		285
Lys Arg Arg Lys Ala Ser Ala Trp Gln Arg Asn Leu Gly Tyr Pro	290		295		300
Leu Ala Met Leu Cys Leu Leu Val Leu Thr Gly Leu Ser Val Leu	305		310		315
Ile Val Ala Ile His Ile Leu Glu Leu Leu Ile Asp Glu Ala Ala	320		325		330
Met Pro Arg Gly Met Gln Gly Thr Ser Leu Gly Gln Val Ser Phe	335		340		345
Ser Lys Leu Gly Ser Phe Gly Ala Val Ile Gln Val Val Leu Ile	350		355		360
Phe Tyr Leu Met Val Ser Ser Val Val Gly Phe Tyr Ser Ser Pro	365		370		375
Leu Phe Arg Ser Leu Arg Pro Arg Trp His Asp Thr Ala Met Thr	380		385		390
Gln Ile Ile Gly Asn Cys Val Cys Leu Leu Val Leu Ser Ser Ala	395		400		405
Leu Pro Val Phe Ser Arg Thr Leu Gly Leu Thr Arg Phe Asp Leu	410		415		420
Leu Gly Asp Phe Gly Arg Phe Asn Trp Leu Gly Asn Phe Tyr Ile	425		430		435
Val Phe Leu Tyr Asn Ala Ala Phe Ala Gly Leu Thr Thr Leu Cys					

440	445	450
Leu Val Lys Thr Phe Thr Ala Ala Val Arg Ala Glu Leu Ile Arg		
455	460	465
Ala Phe Gly Leu Asp Arg Leu Pro Leu Pro Val Ser Gly Phe Pro		
470	475	480
Gln Ala Ser Arg Lys Thr Gln His Gln		
485		

<210> 139  
 <211> 294  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 53, 57  
 <223> unknown base

<400> 139  
 ggctgcccag ggaaggcccc ttgggttggt cttgggttgct tggcgccggc 50  
 ggnattentcc ccgctogtcc tccccgggcc cagaggcacc tcggcttacc 100  
 tcatgctgag cagagtatgg aagcacctga ctacgaagtg ctatccgtgc 150  
 gagaacagct attccacgag aggatccgcg agtgtattat atcaaacatt 200  
 ctgtttgcaa cactgtacat cctctgccac atcttctctga ccgccttcaa 250  
 gaagcctgct gagttcacca cagtggatga tgaagatgcc accg 294

<210> 140  
 <211> 526  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 197, 349  
 <223> unknown base

<400> 140  
 gaccgacctt aaagagtggg agcaaaggga ggacagagcc ttttaaaacg 50  
 aggcggttggt gcctgccctt taaggggggg gcgtccggac gactgtatct 100  
 gagccccaga ctgccccgag tttctgtcgc aggetgcgag gaaaggcccc 150  
 taggtgggtt ctgggtgctg gcggcgccgg cttcctcccc gttgtentcc 200  
 cggggcccag aggcacctcg gcttcagtca tgctgagcag agtatggaag 250  
 cactgacta cgaagtgcta tccgtgcgag aacagctatt ccacgagagg 300  
 atccgcgagt gtattatata aacacttctg tttgcaacac tgtacatcnt 350  
 ctgcccacato ttcctgacct gcttcaagaa gcctgctgag ttcaccacag 400  
 tggatgatga agatgccacc gtcaacaaga ttgcgctoga gctgtgcacc 450



tttaccctgg caattgccct ggggtgctgc ctgctcctgc ccttctccat 500  
catcagcaat gaggtgctgc actccc 526

<210> 141  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 141  
gactgtatct gagccccaga ctgc 24

<210> 142  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 142  
tcagcaatga ggtgctgctc 20

<210> 143  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 143  
tgaggaagat gagggacagg ttgg 24

<210> 144  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 144  
tatggaagca cctgactacg aagtgcctatc cgtgcgagaa cagctattcc 50

<210> 145  
<211> 685  
<212> DNA  
<213> Homo sapiens

<400> 145  
gatgtgctcc ttggagctgg tgtgcagtgct cctgactgta agatcaagtc 50  
caaacctgtt ttggaattga ggaaacttct cttttgatct cagcccttgg 100  
tgggtccaggt cttcatgctg ctgtgggtga tattaactggt cctggctcct 150  
gtcagttggac agtttgcaag gacacccagg cccattatct tcctccagcc 200  
tccatggacc acagtcttcc aaggagagag agtgaccctc acttgcaagg 250

gatttcgctt ctactcacca cagaaaacaa aatggtacca tcggtacctt 300  
 gggaaagaaa tactaagaga aaccccagac aatataccttg aggttcagga 350  
 atctggagag tacagatgcc aggccaggg ctcccctctc agtagccctg 400  
 tgcacttgga tttttcttca gagatgggat ttctctatgc tgcccaggct 450  
 aatgttgaac tcctgggctc aagtgatctg ctacactagg cctctcaaag 500  
 cgctgggatt acagcttcgc tgatcctgca agctccactt tctgtgttg 550  
 aaggagactc tgtggttctg aggtgcggg caaaggcgga agtaacactg 600  
 aataatacta tttaacaaga tgataatgtc ctggcattcc ttaataaaag 650  
 aactgacttc caaaaaaaaa aaaaaaaaaa aaaaa 685

<210> 146  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 146  
 Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly  
 1 5 10 15  
 Gln Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro  
 20 25 30  
 Trp Thr Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys  
 35 40 45  
 Gly Phe Arg Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg  
 50 55 60  
 Tyr Leu Gly Lys Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu  
 65 70 75  
 Glu Val Gln Glu Ser Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser  
 80 85 90  
 Pro Leu Ser Ser Pro Val His Leu Asp Phe Ser Ser Glu Met Gly  
 95 100 105  
 Phe Pro His Ala Ala Gln Ala Asn Val Glu Leu Leu Gly Ser Ser  
 110 115 120  
 Asp Leu Leu Thr

<210> 147  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 147  
 cagaagaggg ggctagctag ctgtctctgc ggaccaggga gacccccgcg 50  
 cccccccggt gtgaggcggc ctcacagggc cgggtgggct ggcgagccga 100  
 cgcgccggcg gaggaggctg tgaggagtgt gtggaacagg acccgggaca 150

gaggaaccat ggctccgag aacctgagca ccttttgctt gttgctgcta 200  
 tacctcatcg gggcggtgat tgccggacga gatttctata agatcttggg 250  
 ggtgctcoga agtgccctota taaaggatat taaaaaggcc tataggaaac 300  
 tagccctgca gcttcatccc gaccggaacc ctgatgatcc acaagcccag 350  
 gagaaattcc aggatctggg tgctgcttat gaggttctgt cagatagtga 400  
 gaaacggaaa cagtacgata cttatggtga agaaggatta aaagatggtc 450  
 atcagagctc ccattggagac attttttcac acttctttgg ggattttggt 500  
 ttcatgtttg gaggaacccc tcgtcagcaa gacagaaata ttccaaggag 550  
 aagtgatatt attgtagatc tagaagtcac ttggaagaa gtatatgcag 600  
 gaaattttgt ggaagtagtt agaaacaaac ctgtggcaag gcaggctcct 650  
 ggcaaaccga agtgcaattg tcggcaagag atgcggacca ccagctggg 700  
 ccctgggggc ttccaaatga ccaggagggt ggtctgcgac gaatgccta 750  
 atgtcaaaact agtgaatgaa gaacgaacgc tggaagtaga aatagagcct 800  
 ggggtgagag acggcatgga gtaccctttt attggagaag gtgagcctca 850  
 cgtggatggg gagcctggag atttacggtt ccgaatcaaa gttgtcaagc 900  
 acccaatatt tgaaaggaga ggagatgatt tgtacacaaa tgtgacaatc 950  
 tcattagtgt agtcaactggt tggctttgag atggatatta ctcaacttga 1000  
 tggtcacaag gtacatatatt ccgaggataa gatcacccag ccaggagcga 1050  
 agctatggaa gaaaggggaa gggctcccca actttgacaa caacaatc 1100  
 aagggtctct tgataatcac ttttgatgtg gattttccaa aagaacagtt 1150  
 aacagaggaa gcgagagaag gtatcaaaca gctactgaaa caagggtcag 1200  
 tgcagaaggt atacaatgga ctgcaaggat attgagagtg aataaaattg 1250  
 gactttgttt aaaataagtg aataagcgat atttattatc tgcaaggttt 1300  
 ttttgtgtgt gttttgttt ttattttcaa tatgcaagtt aggttaatt 1350  
 tttttatcta atgatcatca tgaaatgaat aagagggtct aagaatttgt 1400  
 ccatttgcat tcggaaaaga atgaccagca aaaggttac taatacctct 1450  
 ccctttgggg atttaatgtc tgggtgtgcc gcctgagttt caagaattaa 1500  
 agctgaaga ggactccagg agcaaaagaa acacaatata gaggggttga 1550  
 gttgttagca atttcattca aaatgccaac tggagaagtc tgtttttaa 1600  
 tacattttgt tgttattttt a 1621

<210> 148

<211> 358

<212> PRT

<213> Homo sapiens

<400> 148

Met Ala Pro Gln Asn Leu Ser Thr Phe Cys Leu Leu Leu Leu Tyr  
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Leu Ile Gly Ala Val Ile Ala Gly Arg Asp Phe Tyr Lys Ile Leu  
20 25 30  
Gly Val Pro Arg Ser Ala Ser Ile Lys Asp Ile Lys Lys Ala Tyr  
35 40 45  
Arg Lys Leu Ala Leu Gln Leu His Pro Asp Arg Asn Pro Asp Asp  
50 55 60  
Pro Gln Ala Gln Glu Lys Phe Gln Asp Leu Gly Ala Ala Tyr Glu  
65 70 75  
Val Leu Ser Asp Ser Glu Lys Arg Lys Gln Tyr Asp Thr Tyr Gly  
80 85 90  
Glu Glu Gly Leu Lys Asp Gly His Gln Ser Ser His Gly Asp Ile  
95 100 105  
Phe Ser His Phe Phe Gly Asp Phe Gly Phe Met Phe Gly Gly Thr  
110 115 120  
Pro Arg Gln Gln Asp Arg Asn Ile Pro Arg Gly Ser Asp Ile Ile  
125 130 135  
Val Asp Leu Glu Val Thr Leu Glu Glu Val Tyr Ala Gly Asn Phe  
140 145 150  
Val Glu Val Val Arg Asn Lys Pro Val Ala Arg Gln Ala Pro Gly  
155 160 165  
Lys Arg Lys Cys Asn Cys Arg Gln Glu Met Arg Thr Thr Gln Leu  
170 175 180  
Gly Pro Gly Arg Phe Gln Met Thr Gln Glu Val Val Cys Asp Glu  
185 190 195  
Cys Pro Asn Val Lys Leu Val Asn Glu Glu Arg Thr Leu Glu Val  
200 205 210  
Glu Ile Glu Pro Gly Val Arg Asp Gly Met Glu Tyr Pro Phe Ile  
215 220 225  
Gly Glu Gly Glu Pro His Val Asp Gly Glu Pro Gly Asp Leu Arg  
230 235 240  
Phe Arg Ile Lys Val Val Lys His Pro Ile Phe Glu Arg Arg Gly  
245 250 255  
Asp Asp Leu Tyr Thr Asn Val Thr Ile Ser Leu Val Glu Ser Leu  
260 265 270  
Val Gly Phe Glu Met Asp Ile Thr His Leu Asp Gly His Lys Val  
275 280 285  
His Ile Ser Arg Asp Lys Ile Thr Arg Pro Gly Ala Lys Leu Trp  
290 295 300

Lys Lys Gly Glu Gly Leu Pro Asn Phe Asp Asn Asn Asn Ile Lys  
 305 310  
 Gly Ser Leu Ile Ile Thr Phe Asp Val Asp Phe Pro Lys Glu Gln  
 320 325 330  
 Leu Thr Glu Glu Ala Arg Glu Gly Ile Lys Gln Leu Leu Lys Gln  
 335 340 345  
 Gly Ser Val Gln Lys Val Tyr Asn Gly Leu Gln Gly Tyr  
 350 355

<210> 149  
 <211> 509  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 34, 52, 134, 142, 155, 158, 196, 217, 228, 272, 347, 410, 445,  
 482  
 <223> unknown base

<400> 149  
 tgggaccagg gaaccccgagg ccccccgggt gagngcctaa caggccgggtg 50  
 gntgcgacgg aagcgggcgg cgaggagggt ttgaggatt ttggaacag 100  
 gacccggaac gaggaacct ggttcgcag aacntgagca cntttgcct 150  
 gttgntgnta tacttcatcg gggcggtgat tgcgggacga gatttntata 200  
 agattttggg gtgcctngaa gtgcctnta taaaggatat taaaaaggcc 250  
 tataggaaac tagccctgca gntttatccc gaccggaacc ctgatgatcc 300  
 acaagcccag gaaaaattcc aggatttggg tgctgcttat gaggttntgt 350  
 cagatagtga gaaacggaaa cagtacgata attatggtga agaaggatta 400  
 aaagatggtn atcagagctc ccatggagac attttttcac acttntttgg 450  
 ggattttggt ttcattgttg gaggaacccc tngtcagcaa gacagaaata 500  
 ttccaagag 509

<210> 150  
 <211> 1532  
 <212> DNA  
 <213> Homo sapiens

<400> 150  
 ggcagcaggc ggcggggcag tgcggggatg cgcgggggag ccacagcctg 50  
 aggcctcag gtctctgcag gtgtcgtgga ggaacctagc acctgcctac 100  
 ctcttcccca atttgccact tccagcagct ttagcccatg aggaggatgt 150  
 gaccgggact gagtccagg ccctctgga gcatggagac tgtgtgtatt 200  
 gttgccatag gtgtgctggc caccatcttt ctggcttcgt ttgcagcctt 250  
 ggtgctgtgt tgcaggcagc gctactgccc gccgcgagac ctgctgcagc 300

gctatgattc taagcccatt gtggacctca ttggtgccat ggagaccag 350  
 tctgagccct ctgagttaga actggacgat gtcgttatca ccaaccccca 400  
 cattgaggcc attctggaga atgaagactg gatcgaagat gcctcgggtc 450  
 tcatgtccca ctgcattgcc atcttgaaga tttgtcacac tctgacagag 500  
 aagcttggtg ccatgacaat gggctctggg gccaaagatga agacttcagc 550  
 cagtgtcagc gacatcattg ttggtggccaa gcggatcagc ccaggggtg 600  
 atgatgttgt gaagtcgatg taccctcctg ttgaccccaa actcctggac 650  
 gcacggacga ctgccctgct cctgtctgtc agtcacctgg tgcctgggtgac 700  
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 agagggatat tgaaaactgg ttgactgtca gctttattta gtcacccatg 1150  
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 taaaattaga atttctggcc tctctogac ggtcagaatg tgtggcaatt 1250  
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 tgtattatct gctcgttccc tgaggcgtct ggtctctccc tctccctgc 1400  
 aggtttgggt ttgaagctga ggaactacaa agttgatgat tctttttta 1450  
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<210> 151

<211> 226

<212> PRT

<213> Homo sapiens

<400> 151

Met	Glu	Thr	Val	Val	Ile	Val	Ala	Ile	Gly	Val	Leu	Ala	Thr	Ile
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Phe	Leu	Ala	Ser	Phe	Ala	Ala	Leu	Val	Leu	Val	Cys	Arg	Gln	Arg
				20					25					30
Tyr	Cys	Arg	Pro	Arg	Asp	Leu	Leu	Gln	Arg	Tyr	Asp	Ser	Lys	Pro

	35		40		45
Ile Val Asp Leu	Ile 50	Gly Ala Met Glu	Thr 55	Gln Ser Glu Pro	Ser 60
Glu Leu Glu Leu	Asp 65	Asp Val Val Ile	Thr 70	Asn Pro His Ile	Glu 75
Ala Ile Leu Glu	Asn 80	Glu Asp Trp Ile	Glu 85	Asp Ala Ser Gly	Leu 90
Met Ser His Cys	Ile 95	Ala Ile Leu Lys	Ile 100	Cys His Thr Leu	Thr 105
Glu Lys Leu Val	Ala 110	Met Thr Met Gly	Ser 115	Gly Ala Lys Met	Lys 120
Thr Ser Ala Ser	Val 125	Ser Asp Ile Ile	Val 130	Val Ala Lys Arg	Ile 135
Ser Pro Arg Val	Asp 140	Asp Val Val Lys	Ser 145	Met Tyr Pro Pro	Leu 150
Asp Pro Lys Leu	Leu 155	Asp Ala Arg Thr	Thr 160	Ala Leu Leu Leu	Ser 165
Val Ser His Leu	Val 170	Leu Val Thr Arg	Asn 175	Ala Cys His Leu	Thr 180
Gly Gly Leu Asp	Trp 185	Ile Asp Gln Ser	Leu 190	Ser Ala Ala Glu	Glu 195
His Leu Glu Val	Leu 200	Arg Glu Ala Ala	Leu 205	Ala Ser Glu Pro	Asp 210
Lys Gly Leu Pro	Gly 215	Pro Glu Gly Phe	Leu 220	Gln Glu Gln Ser	Ala 225

Ile

<210> 152  
 <211> 1027  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 1017, 1020  
 <223> unknown base

<400> 152  
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 aaaattggaa tgggattaac aggatttgga gtgtttttcc tggtcttttg 150  
 aatgattctc ttttttgaca aagcactact ggctattgga aatgttttat 200  
 ttgtagccgg ctgtggctttt gtaattgggt tagaagaac attcagattc 250  
 ttcttccaaa aacataaaa gaaagctaca ggtttttttc tgggtggtgt 300

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 attagaagag tgccagtcct tggatccctc ctaaatttac ctggaattag 450  
 atcatttgta gataaagttg gagaagcaa caatatggtg taacaacaag 500  
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 agaattattca gcacaaaatt aaattacatg aaatagcttg taatgttctt 600  
 tacaggaggtt taaaacgtat agcctacaaa gtaccagcag caaattagca 650  
 aagaagcagt gaaaacaggc ttctactcaa gtgaactaag aagaagtcag 700  
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 tatttccagt tgcactgtat ctctggaagt gatgcatgaa ttcgattgga 950  
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 ggattacttt tttttgngcn cagggcc 1027

<210> 153  
 <211> 138  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> N-myristoylation Sites  
 <222> 11-16, 51-56 and 116-121  
 <223> N-myristoylation Sites.  
 <220>  
 <221> Transmembrane domains  
 <222> 12-30, 33-52, 69-89 and 93-109  
 <223> Transmembrane domains

<220>  
 <221> Aminoacyl-transfer RNA Synthetases.  
 <222> 49-59  
 <223> Aminoacyl-transfer RNA synthetases class-II protein.

<400> 153  
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 Gly Phe Gly Val Phe Phe Leu Phe Phe Gly Met Ile Leu Phe Phe  
 20 25 30  
 Asp Lys Ala Leu Leu Ala Ile Gly Asn Val Leu Phe Val Ala Gly  
 35 40 45  
 Leu Ala Phe Val Ile Gly Leu Glu Arg Thr Phe Arg Phe Phe Phe  
 50 55 60



Gln Lys His Lys Met Lys Ala Thr Gly Phe Phe Leu Gly Gly Val  
65 70  
Phe Val Val Leu Ile Gly Trp Pro Leu Ile Gly Met Ile Phe Glu  
80 85 90  
Ile Tyr Gly Phe Phe Leu Leu Phe Arg Gly Phe Phe Pro Val Val  
95 100 105  
Val Gly Phe Ile Arg Arg Val Pro Val Leu Gly Ser Leu Leu Asn  
110 115 120  
Leu Pro Gly Ile Arg Ser Phe Val Asp Lys Val Gly Glu Ser Asn  
125 130 135  
Asn Met Val

<210> 154  
<211> 405  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 66  
<223> unknown base

<400> 154  
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ccactgcagc catgatctcc ttaacggaca cgcagaaaat tggaatggga 150  
ttaaccggat ttggagtgtt ttctctgttc ttggaatga ttctctttt 200  
tgacaaagca ctactggcta ttggaaatgt tttatttga gccggcttgg 250  
cttttgaat tggtttagaa agaacattca gattctctt ccaaaaacat 300  
aaaatgaaag ctacagggtt tttctgggt ggtgtatttg tagtccttat 350  
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tggtc 405

<210> 155  
<211> 1781  
<212> DNA  
<213> Homo sapiens

<400> 155  
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tttcttctt ctggaatct ttgactgtgg gtagttattt atttctgaat 150  
aagagcgtcc acgcatcatg gacctcgagg gactgtgaa gtctcagttc 200  
ctgtgccacc tgggttctg ctacgtctt attgcctcag ggctaatacat 250

caacaccatt cagctcttca ctctctctct ctggcccatt aacaagcagc 300  
 tcttcoggaa gatcaactgc agactgtcct attgcatctc aagccagctg 350  
 gtgatgtgcg tggagtgggt gtccggcacg gaatgcacca tttcacgga 400  
 cccgcgcgcc tacctcaagt atgggaagga aaatgccatc gtggttttca 450  
 accacaagtt tgaaattgac tttctgtgtg gctggagcct gtccgaacgc 500  
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 tgtcccaatt atcggctgga tgttgtaact caccgagatg gtcttctgtt 600  
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 ctccgggact accccgagaa gtattttttc ctgattcact gtgaggcac 700  
 acggttcacg gagaagaagc atgagatcag catgcagggt gccggggcca 750  
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 gccatcacgg tgaggagctt gagaaatgta gtttcagctg tatatgactg 850  
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 acggaagaa ataccatgca gatttgtatg ttaggaggat cccactggaa 950  
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 ccaggagaag gatgcctttc aggaggagta ctacaggacg ggcaccttc 1050  
 cagagacgcc catggtgccc cccggcgccg cctggacctc cgtgaactgg 1100  
 ctgttttggg cctcgtggt gctctacctt ttcttcagtt tccgtgtcag 1150  
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 tctttgtggc ctccgtggga gttcgatgga tgattggtgt gacggaaatt 1250  
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 atcctttggt gctgagtttt ctgtaacctt tggttgccag agataaagt 1700  
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 taaagtgcct ttctgggtca aaaaaaaaa a 1781

<210> 156

<211> 378  
 <212> PRT  
 <213> Homo sapiens

<400> 156

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				20					25					30
Ile	Gln	Leu	Phe	Thr	Leu	Leu	Leu	Trp	Pro	Ile	Asn	Lys	Gln	Leu
				35					40					45
Phe	Arg	Lys	Ile	Asn	Cys	Arg	Leu	Ser	Tyr	Cys	Ile	Ser	Ser	Gln
				50					55					60
Leu	Val	Met	Leu	Leu	Glu	Trp	Trp	Ser	Gly	Thr	Glu	Cys	Thr	Ile
				65					70					75
Phe	Thr	Asp	Pro	Arg	Ala	Tyr	Leu	Lys	Tyr	Gly	Lys	Glu	Asn	Ala
				80					85					90
Ile	Val	Val	Leu	Asn	His	Lys	Phe	Glu	Ile	Asp	Phe	Leu	Cys	Gly
				95					100					105
Trp	Ser	Leu	Ser	Glu	Arg	Phe	Gly	Leu	Leu	Gly	Gly	Ser	Lys	Val
				110					115					120
Leu	Ala	Lys	Lys	Glu	Leu	Ala	Tyr	Val	Pro	Ile	Ile	Gly	Trp	Met
				125					130					135
Trp	Tyr	Phe	Thr	Glu	Met	Val	Phe	Cys	Ser	Arg	Lys	Trp	Glu	Gln
				140					145					150
Asp	Arg	Lys	Thr	Val	Ala	Thr	Ser	Leu	Gln	His	Leu	Arg	Asp	Tyr
				155					160					165
Pro	Glu	Lys	Tyr	Phe	Phe	Leu	Ile	His	Cys	Glu	Gly	Thr	Arg	Phe
				170					175					180
Thr	Glu	Lys	Lys	His	Glu	Ile	Ser	Met	Gln	Val	Ala	Arg	Ala	Lys
				185					190					195
Gly	Leu	Pro	Arg	Leu	Lys	His	His	Leu	Leu	Pro	Arg	Thr	Lys	Gly
				200					205					210
Phe	Ala	Ile	Thr	Val	Arg	Ser	Leu	Arg	Asn	Val	Val	Ser	Ala	Val
				215					220					225
Tyr	Asp	Cys	Thr	Leu	Asn	Phe	Arg	Asn	Asn	Glu	Asn	Pro	Thr	Leu
				230					235					240
Leu	Gly	Val	Leu	Asn	Gly	Lys	Lys	Tyr	His	Ala	Asp	Leu	Tyr	Val
				245					250					255
Arg	Arg	Ile	Pro	Leu	Glu	Asp	Ile	Pro	Glu	Asp	Asp	Asp	Glu	Cys
				260					265					270
Ser	Ala	Trp	Leu	His	Lys	Leu	Tyr	Gln	Glu	Lys	Asp	Ala	Phe	Gln
				275					280					285
Glu	Glu	Tyr	Tyr	Arg	Thr	Gly	Thr	Phe	Pro	Glu	Thr	Pro	Met	Val

	290		295		300
Pro	Pro Arg Arg	Pro Trp Thr Leu Val	Asn Trp Leu Phe Trp	Ala	
	305		310		315
Ser	Leu Val Leu	Tyr Pro Phe Phe Gln	Phe Leu Val Ser Met	Ile	
	320		325		330
Arg	Ser Gly Ser	Ser Leu Thr Leu Ala	Ser Phe Ile Leu Val	Phe	
	335		340		345
Phe	Val Ala Ser	Val Gly Val Arg Trp	Met Ile Gly Val Thr	Glu	
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Ile	Asp Lys Gly	Ser Ala Tyr Gly Asn	Ser Asp Ser Lys Gln	Lys	
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Leu Asn Asp					

<210> 157

<211> 1849

<212> DNA

<213> Homo sapiens

<400> 157

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gaagtaaatg agcaagcact gaagaaaata ttatcaaatg tcaaaaagaa 300

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gacottgttt ttctgctatt aacaccaagt ataataacag aaagctgctc 450

tactcatcga ctggaacatt ctttatataa acctcaaaaa ggaactttttc 500

acaggggtacc tttagtggtt gccaatctgg gcatgtctga acaactgggt 550

tataaaactg taccagggtc ctgtatgtcc actggtttta gccgagcagt 600

acaaacacac agctctaaat tttttgaaga agatggatcc ttaaaggagg 650

tacataagat aatgaaatg tatgcttcat tacaagagga attaaagagt 700

atatgcaaaa aagtgaaga cagtgaacaa gcagtagata aactagtaaa 750

ggatgtaaac agattaaaac gagaattga gaaaaggaga ggagcacaga 800

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<210> 158

<211> 409

<212> PRT

<213> Homo sapiens

<400> 158

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 20 25 30  
 Gly Phe Leu Leu Gly Glu Val Lys Gly Glu Ala Lys Asn Ser Ile  
 35 40 45  
 Thr Asp Ser Gln Met Asp Asp Val Glu Val Val Tyr Thr Ile Asp  
 50 55 60  
 Ile Gln Lys Tyr Ile Pro Cys Tyr Gln Leu Phe Ser Phe Tyr Asn  
 65 70 75  
 Ser Ser Gly Glu Val Asn Glu Gln Ala Leu Lys Lys Ile Leu Ser  
 80 85 90  
 Asn Val Lys Lys Asn Val Val Gly Trp Tyr Lys Phe Arg Arg His  
 95 100 105

Ser Asp Gln Ile	Met Thr Phe Arg Glu	Arg Leu Leu His Lys Asn
110		120
Leu Gln Glu His	Phe Ser Asn Gln Asp	Leu Val Phe Leu Leu Leu
125		135
Thr Pro Ser Ile	Ile Thr Glu Ser Cys Ser	Thr His Arg Leu Glu
140		150
His Ser Leu Tyr	Lys Pro Gln Lys Gly	Leu Phe His Arg Val Pro
155		165
Leu Val Val Ala	Asn Leu Gly Met Ser	Glu Gln Leu Gly Tyr Lys
170		180
Thr Val Ser Gly	Ser Cys Met Ser Thr	Gly Phe Ser Arg Ala Val
185		195
Gln Thr His Ser	Ser Lys Phe Phe Glu	Glu Asp Gly Ser Leu Lys
200		210
Glu Val His Lys	Ile Asn Glu Met Tyr	Ala Ser Leu Gln Glu Glu
215		225
Leu Lys Ser Ile	Cys Lys Lys Val Glu	Asp Ser Glu Gln Ala Val
230		240
Asp Lys Leu Val	Lys Asp Val Asn Arg	Leu Lys Arg Glu Ile Glu
245		255
Lys Arg Arg Gly	Ala Gln Ile Gln Ala	Ala Arg Glu Lys Asn Ile
260		270
Gln Lys Asp Pro	Gln Glu Asn Ile Phe	Leu Cys Gln Ala Leu Arg
275		285
Thr Phe Phe Pro	Asn Ser Glu Phe Leu	His Ser Cys Val Met Ser
290		300
Leu Lys Asn Arg	His Val Ser Lys Ser	Ser Cys Asn Tyr Asn His
305		315
His Leu Asp Val	Val Asp Asn Leu Thr	Leu Met Val Glu His Thr
320		330
Asp Ile Pro Glu	Ala Ser Pro Ala Ser	Thr Pro Gln Ile Ile Lys
335		345
His Lys Ala Leu	Asp Leu Asp Asp Arg	Trp Gln Phe Lys Arg Ser
350		360
Arg Leu Leu Asp	Thr Gln Asp Lys Arg	Ser Lys Ala Asn Thr Gly
365		375
Ser Ser Asn Gln	Asp Lys Ala Ser Lys	Met Ser Ser Pro Glu Thr
380		390
Asp Glu Glu Ile	Glu Lys Met Lys Gly	Phe Gly Glu Tyr Ser Arg
395		405
Ser Pro Thr Phe		

<210> 159  
 <211> 2651  
 <212> DNA  
 <213> Homo sapiens

<400> 159  
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 ccgctacttt cgtccaaggc ttagcgggtg cgggagatgt cgtgagcaag 1200  
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ggttgacacc agcaaacag acatactgat ccttcgtcaa atcatggctc 1900  
ttcagtgatg gaccagcaag atgaagaatg catacaatgg gaacgacgtg 1950  
gacttctttg atatcagtga tgaaagtatg ggagaaggaa gtggaagtgg 2000  
ctgtgagtat cagcagtgcc ctccagagtt tgactacaat gccactgacc 2050  
atgctgggaa gagtgcgaat gagaagccg acagtgtctg tgcctgtctt 2100  
ggggcacagg cctacctct cactgtcttc tgcatcttgt tccgtgttat 2150  
gcagagagag tgagataat tctcaaacct tgagaaaaag tgttcacaa 2200  
aaagttaaaa ggaccagtt atcacttttc taccatccta gtgactttgc 2250  
tttttaaatg aatggacaac aatgtacagt ttttactatg tggccactgg 2300  
tttaagaagt gctgactttg ttttctcatt cagttttggg aggaaaaggg 2350  
actgtgcatt gatttggttc ctgctcccc aaacatgttt aaacgtggct 2400  
aacagtgtag gtacagaact atagttagtt gtgcatttgt gatattatca 2450  
ctctattatt tgtttgtatg tttttttctc atttcgtttg tgggtttttt 2500  
tttccaactg tgatctgcc ttgtttctta caagcaaac agggctccct 2550  
cttggcacgt aacatgtacg tatttctgaa atattaaata gctgtacaga 2600  
agcaggtttt atttatcatg ttatcttatt aaaagaaaaa gcccaaaaag 2650  
c 2651

<210> 160

<211> 556

<212> FRT

<213> Homo sapiens

<400> 160

Met Ala Arg Phe Gly Leu Pro Ala Leu Leu Cys Thr Leu Ala Val  
1 5 10 15

Leu Ser Ala Ala Leu Leu Ala Ala Glu Leu Lys Ser Lys Ser Cys  
20 25 30

Ser Glu Val Arg Arg Leu Tyr Val Ser Lys Gly Phe Asn Lys Asn



0901181-11601

35	40	45
Asp Ala Pro Leu His 50	Glu Ile Asn Gly Asp His Leu Lys Ile Cys 55	60
Pro Gln Gly Ser Thr 65	Cys Cys Ser Gln Glu Met Glu Glu Lys Tyr 70	75
Ser Leu Gln Ser Lys 80	Asp Asp Phe Lys Ser Val Val Ser Glu Gln 85	90
Cys Asn His Leu Gln 95	Ala Val Phe Ala Ser Arg Tyr Lys Lys Phe 100	105
Asp Glu Phe Phe Lys 110	Glu Leu Leu Glu Asn Ala Glu Lys Ser Leu 115	120
Asn Asp Met Phe Val 125	Lys Thr Tyr Gly His Leu Tyr Met Gln Asn 130	135
Ser Glu Leu Phe Lys 140	Asp Leu Phe Val Glu Leu Lys Arg Tyr Tyr 145	150
Val Val Gly Asn Val 155	Asn Leu Glu Glu Met Leu Asn Asp Phe Trp 160	165
Ala Arg Leu Leu Glu 170	Arg Met Phe Arg Leu Val Asn Ser Gln Tyr 175	180
His Phe Thr Asp Glu 185	Tyr Leu Glu Cys Val Ser Lys Tyr Thr Glu 190	195
Gln Leu Lys Pro Phe 200	Gly Asp Val Pro Arg Lys Leu Lys Leu Gln 205	210
Val Thr Arg Ala Phe 215	Val Ala Ala Arg Thr Phe Ala Gln Gly Leu 220	225
Ala Val Ala Gly Asp 230	Val Val Ser Lys Val Ser Val Val Asn Pro 235	240
Thr Ala Gln Cys Thr 245	His Ala Leu Leu Lys Met Ile Tyr Cys Ser 250	255
His Cys Arg Gly Leu 260	Val Thr Val Lys Pro Cys Tyr Asn Tyr Cys 265	270
Ser Asn Ile Met Arg 275	Gly Cys Leu Ala Asn Gln Gly Asp Leu Asp 280	285
Phe Glu Trp Asn Asn 290	Phe Ile Asp Ala Met Leu Met Val Ala Glu 295	300
Arg Leu Glu Gly Pro 305	Phe Asn Ile Glu Ser Val Met Asp Pro Ile 310	315
Asp Val Lys Ile Ser 320	Asp Ala Ile Met Asn Met Gln Asp Asn Ser 325	330
Val Gln Val Ser Gln 335	Lys Val Phe Gln Gly Cys Gly Pro Pro Lys 340	345
Pro Leu Pro Ala Gly 350	Arg Ile Ser Arg Ser Ile Ser Glu Ser Ala 355	

350	355	360
Phe Ser Ala Arg	Phe Arg Pro His His	Pro Glu Glu Arg Pro Thr
365	370	375
Thr Ala Ala Gly	Thr Ser Leu Asp Arg	Leu Val Thr Asp Val Lys
380	385	390
Glu Lys Leu Lys	Gln Ala Lys Lys Phe	Trp Ser Ser Leu Pro Ser
395	400	405
Asn Val Cys Asn	Asp Glu Arg Met Ala	Ala Gly Asn Gly Asn Glu
410	415	420
Asp Asp Cys Trp	Asn Gly Lys Gly Lys	Ser Arg Tyr Leu Phe Ala
425	430	435
Val Thr Gly Asn	Gly Leu Ala Asn Gln	Gly Asn Asn Pro Glu Val
440	445	450
Gln Val Asp Thr	Ser Lys Pro Asp Ile	Leu Ile Leu Arg Gln Ile
455	460	465
Met Ala Leu Arg	Val Met Thr Ser Lys	Met Lys Asn Ala Tyr Asn
470	475	480
Gly Asn Asp Val	Asp Phe Phe Asp Ile	Ser Asp Glu Ser Ser Gly
485	490	495
Glu Gly Ser Gly	Ser Gly Cys Glu Tyr	Gln Gln Cys Pro Ser Glu
500	505	510
Phe Asp Tyr Asn	Ala Thr Asp His Ala	Gly Lys Ser Ala Asn Glu
515	520	525
Lys Ala Asp Ser	Ala Gly Val Arg Pro	Gly Ala Gln Ala Tyr Leu
530	535	540
Leu Thr Val Phe	Cys Ile Leu Phe Leu	Val Met Gln Arg Glu Trp
545	550	555

Arg

<210> 161  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 161  
 ctccgtggtgta aacccacag ccc 23

<210> 162  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 162  
tcacatcgat gggatccatg accg 24

<210> 163  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 163  
ggtctcgtga ctgtgaagcc atgttacaac tactgctcaa acatcatgag 50

<210> 164  
<211> 870  
<212> DNA  
<213> Homo sapiens

<400> 164  
ctcgccctca aatgggaaag ctggcctggg actaaagcat agaccaccag 50  
gctgagtatc ctgacctgag tcatcccag ggatcaggag cctccagcag 100  
ggaaccttcc attatattct tcaagcaact tacagctgca cgcacagtgt 150  
cgatgaaagt tctaattctct tccctcctcc tgttgctgcc actaatgtgt 200  
atgtccatgg tctctagcag cctgaatcca ggggtcgcca gagggcacag 250  
ggaccgaggc caggcttcta ggagatggct ccaggaaggc ggccaagaat 300  
gtgagtgcaa agattggttc ctgagagccc cgagaagaaa attcatgaca 350  
gtgtctgggc tgccaaagaa gcagtgcccc tgtgatcatt tcaagggcaa 400  
tgtgaagaaa acaagacacc aaaggacca cagaaagcca aacaagcatt 450  
ccagagcctg ccagcaattt ctcaacaat gtcagctaag aagctttgct 500  
ctgcctttgt aggagctctg agcgcccaact cttccaatta aacatttca 550  
gccaagaaga cagtgcac acctaccaga cactcttctt ctccacctc 600  
actctccacc tgtaccacc cctaatacat tccagtgtc tcaaaaagca 650  
tgtttttcaa gatcattttg ttgttgctc tctctagtgt cttcttctct 700  
cgtcagctct agcctgtgcc ctccccttac ccaggcttag gcttaattac 750  
ctgaaagatt ccaggaagct gtagcttctt agctagtgtc atttaacctt 800  
aaatgcaatc aggaagtag caaacagaag tcaataata tttttaaatg 850  
tcaaaaaaaaa aaaaaaaaaa 870

<210> 165  
<211> 119  
<212> PRT  
<213> Homo sapiens

<400> 165  
Met Lys Val Leu Ile Ser Ser Leu Leu Leu Leu Pro Leu Met

1	5	10	15
Leu Met Ser Met Val Ser Ser Ser Leu Asn Pro Gly Val Ala Arg	20	25	30
Gly His Arg Asp Arg Gly Gln Ala Ser Arg Arg Trp Leu Gln Glu	35	40	45
Gly Gly Gln Glu Cys Glu Cys Lys Asp Trp Phe Leu Arg Ala Pro	50	55	60
Arg Arg Lys Phe Met Thr Val Ser Gly Leu Pro Lys Lys Gln Cys	65	70	75
Pro Cys Asp His Phe Lys Gly Asn Val Lys Lys Thr Arg His Gln	80	85	90
Arg His His Arg Lys Pro Asn Lys His Ser Arg Ala Cys Gln Gln	95	100	105
Phe Leu Lys Gln Cys Gln Leu Arg Ser Phe Ala Leu Pro Leu	110	115	

<210> 166  
 <211> 551  
 <212> DNA  
 <213> Homo sapiens

<400> 166  
 aatggctgtc ttagtacttc gcctgacagt tgtcctggga ctgcttgtct 50  
 tattcctgac ctgctatgca gacgacaaac cagacaagcc agacgacaag 100  
 ccagacgact cgggcaaaga cccaagcca gacttcccca aattcctaag 150  
 cctcctgggc acagagatca ttgagaatgc agtcgagttc atcctccgct 200  
 ccatgtccag gagcacagga tttatggaat ttgatgataa tgaaggaaaa 250  
 cattcatcaa agtgacatcc tcaggacaca ccatgtggc tcctggacaa 300  
 tccaagagca gccaaatcct gcttttccag ttggtccca caagtctctc 350  
 aggacagagc ctcaaaagca actcccaacg agttctcagg attcaggctc 400  
 tggtctcaac caaacagaac tcattttgaa caccctgact gcatttttgc 450  
 ttttagaaag ttagaataaa tatggcgctt tgggatcaca tagttgatgg 500  
 agaggaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 a 551

<210> 167  
 <211> 87  
 <212> FRT  
 <213> Homo sapiens

<400> 167  
 Met Ala Val Leu Val Leu Arg Leu Thr Val Val Leu Gly Leu Leu  
 1 5 10 15  
 Val Leu Phe Leu Thr Cys Tyr Ala Asp Asp Lys Pro Asp Lys Pro

	20		25		30
Asp Asp Lys Pro Asp Asp Ser Gly Lys Asp Pro Lys Pro Asp Phe					
	35		40		45
Pro Lys Phe Leu Ser Leu Leu Gly Thr Glu Ile Ile Glu Asn Ala					
	50		55		60
Val Glu Phe Ile Leu Arg Ser Met Ser Arg Ser Thr Gly Phe Met					
	65		70		75
Glu Phe Asp Asp Asn Glu Gly Lys His Ser Ser Lys					
	80		85		

<210> 168

<211> 1371

<212> DNA

<213> Homo sapiens

<400> 168

ggagcgccagc gcctgcagag gctgagcagg gaaaaagcca gtgccccagc 50

ggaagcacag ctacagagctg gtctgccatg gacatcctgg tccactcct 100

gcagctgctg gtgctgcttc ttaccctgcc cctgcacctc atggctctgc 150

tgggctgctg gcagcccctg tgcaaaagct acttccccta cctgatggcc 200

gtgctgactc ccaagagcaa ccgcaagatg gagagcaaga aacgggagct 250

cttcagccag ataaaggggc ttacaggagc ctccgggaaa gtggccctac 300

tggagctggg ctgoggaacc ggagccaact ttacgttcta cccaccgggc 350

tgcagggtca cctgcctaga cccaaatccc cactttgaga agttcctgac 400

aaagagcatg gctgagaaca ggcacctcca atatgagcgg ttgtggtgg 450

ctcctggaga ggacatgaga cagctggctg atgggtccat ggatgtggtg 500

gtctgcactc tgggtgctgtg ctctgtgcag agcccaagga aggtcctgca 550

ggaggtccgg agagtactga gaccgggagg tgtgtctctt ttctgggagc 600

atgtggcaga accatatgga agctgggcct tcattgtgga gcaagtcttc 650

gagcccaact ggaacacatc tggggatggc tctgtgctca ccagagagac 700

ctggaaggat cttgagaacg ccaggttctc cgaaatccaa atggaacgac 750

agccccctcc cttgaagtgg ctacctgttg ggccccacat catgggaaag 800

gctgtcaaac aatctttccc aagctccaag gcactcattt gctccttccc 850

cagcctccaa ttagaacaag cccccacca gcctatctat ctccactga 900

gagggaacct gcagaatgag agaagacatt catgtaccac ctactagtcc 950

ctctctcccc aacctctgcc agggcaatct ctaacttcaa tcccgccttc 1000

gacagtgaaa aaagctctact tctacgtgta cccaggaggg aaacactagg 1050

acctgtgtgt atctctcaact gcaagtttct ggactagtct cccaacgttt 1100

gcttccaat gttgtccctt tcttcgttc ccatggtaaa gctctctcg 1150  
 ctttctctct gaggtacac ccatgcgtct ctaggaaactg gtcacaaaag 1200  
 tcatgggtgcc tgcattccctg ccaagccccc ctgacctctc ctcccacta 1250  
 ccaccttctt cctgagctgg gggcaccagg gagaatcaga gatgctgggg 1300  
 atgccagagc aagactcaaa gaggcagagg tttgttttc aaatatattt 1350  
 taataaatag acgaaaccac g 1371

<210> 169  
 <211> 277  
 <212> PRT  
 <213> Homo sapiens

<400> 169  
 Met Asp Ile Leu Val Pro Leu Leu Gln Leu Leu Val Leu Leu Leu  
 1 5 10 15  
 Thr Leu Pro Leu His Leu Met Ala Leu Leu Gly Cys Trp Gln Pro  
 20 25 30  
 Leu Cys Lys Ser Tyr Phe Pro Tyr Leu Met Ala Val Leu Thr Pro  
 35 40 45  
 Lys Ser Asn Arg Lys Met Glu Ser Lys Lys Arg Glu Leu Phe Ser  
 50 55 60  
 Gln Ile Lys Gly Leu Thr Gly Ala Ser Gly Lys Val Ala Leu Leu  
 65 70 75  
 Glu Leu Gly Cys Gly Thr Gly Ala Asn Phe Gln Phe Tyr Pro Pro  
 80 85 90  
 Gly Cys Arg Val Thr Cys Leu Asp Pro Asn Pro His Phe Glu Lys  
 95 100 105  
 Phe Leu Thr Lys Ser Met Ala Glu Asn Arg His Leu Gln Tyr Glu  
 110 115 120  
 Arg Phe Val Val Ala Pro Gly Glu Asp Met Arg Gln Leu Ala Asp  
 125 130 135  
 Gly Ser Met Asp Val Val Val Cys Thr Leu Val Leu Cys Ser Val  
 140 145 150  
 Gln Ser Pro Arg Lys Val Leu Gln Glu Val Arg Arg Val Leu Arg  
 155 160 165  
 Pro Gly Gly Val Leu Phe Phe Trp Glu His Val Ala Glu Pro Tyr  
 170 175 180  
 Gly Ser Trp Ala Phe Met Trp Gln Gln Val Phe Glu Pro Thr Trp  
 185 190 195  
 Lys His Ile Gly Asp Gly Cys Cys Leu Thr Arg Glu Thr Trp Lys  
 200 205 210  
 Asp Leu Glu Asn Ala Gln Phe Ser Glu Ile Gln Met Glu Arg Gln  
 215 220 225

Pro Pro Pro Leu Lys Trp Leu Pro Val Gly Pro His Ile Met Gly  
 230 235 240

Lys Ala Val Lys Gln Ser Phe Pro Ser Ser Lys Ala Leu Ile Cys  
 245 250 255

Ser Phe Pro Ser Leu Gln Leu Glu Gln Ala Thr His Gln Pro Ile  
 260 265 270

Tyr Leu Pro Leu Arg Gly Thr  
 275

<210> 170  
 <211> 1621  
 <212> DNA  
 <213> Homo sapiens

<400> 170  
 gtgggattta tttgagtgca agatcgtttt ctcagtgggtg gtggaagtgtg 50  
 cctcatcgca ggcagatggt ggggctttgt ccgaacagctg cccctctgcc 100  
 agcttctgta gataagggtt aaaaactaat atttatatga cagaagaaaa 150  
 agatgtcatt ccgtaaagta aacatcatca tcttggtcct ggctgttgct 200  
 ctcttcttac tggttttgca ccataacttc ctcagcttga gcagtgtgtt 250  
 aaggaaatgag gttacagatt caggaattgt agggcctcaa cctatagact 300  
 ttgtcccaaa tgctctccga catgcagtag atgggagaca agaggagatt 350  
 cctgtgtgca tcgtgcatc tgaagacagc cttggggggg ccattgcagc 400  
 tataaacagc attcagcaca aactcgcct caatgtgatt ttctacattg 450  
 ttactctcaa caatacagca gaccatctcc ggtcctggct caacagtgat 500  
 tccctgaaaa gcatcagata caaaattgtc aattttgacc ctaaactttt 550  
 ggaaggaaaa gtaaaggagg atcctgaoca gggggaatcc atgaaacctt 600  
 taacctttgc aaggttctac ttgccaattc tggttcccag cgcaaagaag 650  
 gccatataca tggatgatga tgtaattgtg caagggtgata ttcttgcct 700  
 ttacaataca gcaactgaagc caggacatgc agctgcattt tcagaagatt 750  
 tggattcagc ctctactaaa gttgtcatcc gtggagcagg aaaccagtac 800  
 aattacattg gctatcttga ctataaaaag gaaagaattc gtaagctttc 850  
 catgaaagcc agcacttgct catttaatcc tggagttttt gtgcaaac 900  
 tgaaggaaat gaaacgacag aatataacta accaactgga aaaatggatg 950  
 aaactcaatg tagaagaggg actgtatagc agaaccctgg ctggtagcat 1000  
 cacaacacot cctctgctta tcgtatttta tcaacagcac tctaccatcg 1050  
 atcctatgtg gaatgtccgc caccttgggt ccagtgcgtg aaaacgatat 1100  
 tcacctcagt ttgtaaaggc tgccaagtta ctccattgga atggacattt 1150

gaagccatgg ggaaggactg cttcatatac tgatgtttgg gaaaaatggt 1200  
 atattccaga cccaacaggc aaattcaacc taatccgaag atataccgag 1250  
 atctcaaaca taaagtgaag cagaatttga actgtaagca agcatttctc 1300  
 aggaagtctt ggaagatagc atgcatggga agtaacagtt gctaggcttc 1350  
 aatgcctatc ggtagcaagc catggaaaaa gatgtgtcag ctaggtaaag 1400  
 atgacaaact gcctgtctg gcagtcagct tccagacag actatagact 1450  
 ataaatatgt ctccatctgc cttaccaagt gtttcttac tacaatgctg 1500  
 aatgactgga aagaagaact gatatggcta gttcagctag ctggtacaga 1550  
 taattcaaaa ctgctgttgg ttttaatttt gtaacctgtg gcctgatctg 1600  
 taaataaaac ttacattttt c 1621

<210> 171

<211> 371

<212> PRT

<213> Homo sapiens

<400> 171

Met	Ser	Phe	Arg	Lys	Val	Asn	Ile	Ile	Ile	Leu	Val	Leu	Ala	Val
1				5					10					15
Ala	Leu	Phe	Leu	Leu	Val	Leu	His	His	Asn	Phe	Leu	Ser	Leu	Ser
				20					25					30
Ser	Leu	Leu	Arg	Asn	Glu	Val	Thr	Asp	Ser	Gly	Ile	Val	Gly	Pro
				35					40					45
Gln	Pro	Ile	Asp	Phe	Val	Pro	Asn	Ala	Leu	Arg	His	Ala	Val	Asp
				50					55					60
Gly	Arg	Gln	Glu	Glu	Ile	Pro	Val	Val	Ile	Ala	Ala	Ser	Glu	Asp
				65					70					75
Arg	Leu	Gly	Gly	Ala	Ile	Ala	Ala	Ile	Asn	Ser	Ile	Gln	His	Asn
				80					85					90
Thr	Arg	Ser	Asn	Val	Ile	Phe	Tyr	Ile	Val	Thr	Leu	Asn	Asn	Thr
				95					100					105
Ala	Asp	His	Leu	Arg	Ser	Trp	Leu	Asn	Ser	Asp	Ser	Leu	Lys	Ser
				110					115					120
Ile	Arg	Tyr	Lys	Ile	Val	Asn	Phe	Asp	Pro	Lys	Leu	Leu	Glu	Gly
				125					130					135
Lys	Val	Lys	Glu	Asp	Pro	Asp	Gln	Gly	Glu	Ser	Met	Lys	Pro	Leu
				140					145					150
Thr	Phe	Ala	Arg	Phe	Tyr	Leu	Pro	Ile	Leu	Val	Pro	Ser	Ala	Lys
				155					160					165
Lys	Ala	Ile	Tyr	Met	Asp	Asp	Asp	Val	Ile	Val	Gln	Gly	Asp	Ile
				170					175					180
Leu	Ala	Leu	Tyr	Asn	Thr	Ala	Leu	Lys	Pro	Gly	His	Ala	Ala	Ala



	185		190		195
Phe Ser Glu Asp	Cys Asp Ser Ala Ser	Thr Lys Val Val Ile Arg			
	200		205		210
Gly Ala Gly Asn	Gln Tyr Asn Tyr Ile	Gly Tyr Leu Asp Tyr Lys			
	215		220		225
Lys Glu Arg Ile	Arg Lys Leu Ser Met	Lys Ala Ser Thr Cys Ser			
	230		235		240
Phe Asn Pro Gly	Val Phe Val Ala Asn	Leu Thr Glu Trp Lys Arg			
	245		250		255
Gln Asn Ile Thr	Asn Gln Leu Glu Lys	Trp Met Lys Leu Asn Val			
	260		265		270
Glu Glu Gly Leu	Tyr Ser Arg Thr Leu	Ala Gly Ser Ile Thr Thr			
	275		280		285
Pro Pro Leu Leu	Ile Val Phe Tyr Gln	Gln His Ser Thr Ile Asp			
	290		295		300
Pro Met Trp Asn	Val Arg His Leu Gly	Ser Ser Ala Gly Lys Arg			
	305		310		315
Tyr Ser Pro Gln	Phe Val Lys Ala Ala	Lys Leu Leu His Trp Asn			
	320		325		330
Gly His Leu Lys	Pro Trp Gly Arg Thr	Ala Ser Tyr Thr Asp Val			
	335		340		345
Trp Glu Lys Trp	Tyr Ile Pro Asp Pro	Thr Gly Lys Phe Asn Leu			
	350		355		360
Ile Arg Arg Tyr	Thr Glu Ile Ser Asn	Ile Lys			
	365		370		

<210> 172  
 <211> 585  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 71, 76, 86, 91, 162, 220, 269, 281  
 <223> unknown base

<400> 172  
 tggtttttgc cccataaatt ccctcagett gagcagtttg ttaaggaatg 50  
 aggttacaga ttcaggaatt ntagnncctc aacctntaga ntttgtccca 100  
 aatgttctcc gacatgcagt agatgggaga caagaggaga ttcctgtggt 150  
 catcgctgca tntgaagaca ggettggggg ggccattgca gctataaaca 200  
 gcattcagca caacactegn tccaatgtga tttctacat tgttactctc 250  
 aacaatacag cagaccatnt ccggttcctgg ntcaacagtg attcctctgaa 300  
 aagcatcaga tacaaaattg tcaattttga ccctaaactt ttggaaggaa 350

aagtaaagga ggatcctgac cagggggaat ccatgaaacc tttaaccttt 400  
gcaaggttct acttgccaat tctggttccc agcgcaaga aggcacata 450  
catggatgat gatgtaattg tgcaagtgga tattcttgcc ctttacaata 500  
cagcactgaa gccaggacat gcagctgcat ttccagaaga ttgtgattca 550  
gcctctacta aagttgtcat ccgtggagca ggaaa 585

<210> 173  
<211> 1866  
<212> DNA  
<213> Homo sapiens

<400> 173  
cgacgctcta gcggttacgc ctgcgggctg gctgggcgta gtggggctgc 50  
gcggtgcca gcgagctaga gggcaagtgt gctcggccca gcgtgcaggg 100  
aacgcgggcg gccagacaac gggctgggct cggggcgctg cggcgcgggc 150  
gctgagctgg cagggcgggg cgggcgcgcg gctgcatcgg catctctctc 200  
atcgctgca gtaaggcgcg ccgcggcgag cctttgaggg gaacgacttg 250  
tcggagccct aaccaggggt gtctctgagc ctggtgggat ccccgaggcg 300  
tcacatcact ttcgatacac ttcaaagtgg ttaaaaacta atatttatat 350  
gacagaagaa aaagatgta ttccgtaaa gtaaacatcat catcttggtc 400  
ctgggctgtt gctctctct tactgtttt gcaccataac ttctcagct 450  
tgaggcagtt tgtaaggaa tgagggttaca gattcaggaa ttgtaggggc 500  
tcaacctata ggactttgtc ccaaatgctc tccgacatgc agtagatggg 550  
agacaagagg agattcctgt ggtcatcgct gcatctgaag acaggcttgg 600  
gggggcccatt gcagctataa acagcattca gcacaacact cgctccaatg 650  
tgattttcta cattgttact ctcaacaata cagcagacca tctcgggtcc 700  
tgggctcaac agtgattccc tgaaaagcat cagatacaaa attgtcaatt 750  
ttgaccctaa acttttgaa ggaaaagtaa aggagatcc tgaccagggg 800  
gaatccatga aacctttaac ctttgcaagg ttctacttgc caattctggg 850  
ttcccagcgc aaagaaggcc atatacatgg atgatgatg aattgtgcaa 900  
ggtgatattc ttgccctta caatacagca ctgaagccag gacatgcagc 950  
tgcattttca gaagattgtg attcagcctc tactaaagtt gtcacogtg 1000  
gagcaggaaa ccagtacaat tacattggct atcttgacta taaaagggaa 1050  
agaattcgta agctttocat gaaagccagc acttgctcat ttaatcctgg 1100  
agtttttgtt gcaaacctga cggaaatggaa acgacagaat ataactaacc 1150  
aactggaaaa atggatgaaa ctcaatgtag aagaggggact gtatagcaga 1200

accctggctg gtagcatcac aacacctcct ctgcttatcg tattttatca 1250  
 acagcactct accatcgatc ctatgtggaa tgtccgccac cttggttcca 1300  
 gtgctggaaa acgatatcca cctcagtttg taaaggctgc caagttactc 1350  
 cattggaatg gacatttgaa gccatgggga aggactgctt catatactga 1400  
 tgtttgggga aaaatgggat attccagacc caacaggcaa attcaaccta 1450  
 atccgaagat ataccgagat ctcaaacata aagtgaacaa gaatttgaac 1500  
 tgtaagcaag catttctcag gaagtcctgg aagatagcat gcgtgggaag 1550  
 taacagtgc taggcttcaa tgcctatcgg tagcaagcca tggaaaaaga 1600  
 tgtgtcagct aggtaaagat gacaaactgc cctgtctggc agtcagcttc 1650  
 ccagacagac tatagactat aaatatgtct ccatctgcct taccaagtgt 1700  
 tttcttacta caatgctgaa tgactggaaa gaagaactga tatggctagt 1750  
 tcagctagct ggtacagata attcaaaact gctgttggtt ttaattttgt 1800  
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 aaaaaaaaa aaaaaa 1866

<210> 174

<211> 823

<212> DNA

<213> Homo sapiens

<400> 174

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 ctcaccattg aggcagctcc actgtctgtg ctggtctgag ggtgctgcct 150  
 gtcattgggg cagccatctc ccagggggcc ctcatcgcca tcgtctgcaa 200  
 cggctctgtg ggcttcttgc tgctgctgct ctgggtcacc ctctgctggg 250  
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 actccagccc tggccctctg cctgagaagg cccaccacc cagaagccc 350  
 agccatgaag gcagctacct gctgcagccc tgaaggcccc tggcctagcc 400  
 tggagcccag gacctaaagt cacctcacct agagcctgga attaggatcc 450  
 cagagttcag ccagcctggg gtccagaact caagagtccg cctgcttgga 500  
 gctggaccga gcggccaga gtctagccag cttggctcca ataggagctc 550  
 agtggcccta aggagatggg cctgggggtg gggcttatga gttggtgcta 600  
 gagccagggc catctggact atgctccatc ccaagggcca agggctcagg 650  
 gccgggtcca ctcttccct aggtcgagca cctctaggcc ctctaggttg 700  
 ggggaagcaa ctggaacca tggcaataat aggagggtgt ccaggctggg 750

ccctccctccct ggctccctccca gtgtttgtctg gataataaat ggaactatgg 800  
ctctaaaaaa aaaaaaaaaa aaa 823

<210> 175  
<211> 87  
<212> PRT  
<213> Homo sapiens

<400> 175  
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Asn Gly Leu Val Gly Phe Leu Leu Leu Leu Leu Trp Val Ile Leu  
20 25 30  
Cys Trp Ala Cys His Ser Arg Leu Pro Thr Leu Thr Leu Ser Leu  
35 40 45  
Asn Pro Val Pro Thr Pro Ala Leu Ala Pro Val Leu Arg Arg Pro  
50 55 60  
His His Pro Arg Ser Pro Ala Met Lys Ala Ala Thr Cys Cys Ser  
65 70 75  
Pro Glu Gly Pro Trp Pro Ser Leu Glu Pro Arg Thr  
80 85

<210> 176  
<211> 1660  
<212> DNA  
<213> Homo sapiens

<400> 176  
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tgtccctcaa acacctgagt gctactccct atttgcattc gttttgataa 150  
atgatgttga caccctccac cgaattctaa gtggaatcat gtggggaaga 200  
gatacaatcc ttggcctgtg tatcctcgca ttagccttgt ctttggccat 250  
gatgtttacc ttcagattca tcaccacct tctggttcac attttcattt 300  
cattgtttat ttggggattg ttgtttgtct gcggtgtttt atggtggctg 350  
tattatgact ataccaacga cctcagcata gaattggaca cagaaaggga 400  
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cagtgtgctc cgtcttgatt ttgtttctca gaaagagaat aaaattgaca 500  
gttgagcttt tccaaatcac aaataaagcc atcagcagtg ctcccttcct 550  
gctgttccag ccactgttga catttgccat cctcattttc ttctgggtcc 600  
tctgggtggc tgtgtgctg agcctgggaa ctgcaggagc tgcccagggt 650  
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gtggtgctac catttaattg gctcactctg gactagttaa ttcactcttg 750

cggtccagca aatgactata gctggggcag tggttacttg ttatttcaac 800  
 agaagtaaaa atgatcctcc tgatcatccc atcctttcgt ctctctccat 850  
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 aaagaacagc agcatgggtgc attgtccagg tacctgttcc gatgctgcta 1000  
 ctgctgtttc tgggtgtcttg acaatacct gctccatctc aaccagaatg 1050  
 catatactac aactgctatt aatgggacag atttctgtac atcagcaaaa 1100  
 gatgcattca aaatcttgtc caagaactca agtcacttta catctattaa 1150  
 ctgctttgga gacttcataa tttttctagg aaaggtgtta gtgggtgtgt 1200  
 tcaactgttt tggaggactc atggccttta actacaatcg ggcattccag 1250  
 gtgtgggcag tccctctgtt attggtagct ttttttgcct acttagtagc 1300  
 ccatagtttt ttatctgtgt ttgaaactgt gctggatgca cttttcctgt 1350  
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 cagaactcca ggccattgtg agatagatac ccatttaggt atctgtacct 1550  
 ggaaaaacatt tccttctaag agccatttac agaataaga atgagaccac 1600  
 tagagaaaag ttagtgaatt tttttttaaa agacctataa aacctattc 1650  
 ttctctcaaaa 1660

<210> 177  
 <211> 445  
 <212> PRT  
 <213> Homo sapiens

<400> 177  
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 Leu Leu Val His Ile Phe Ile Ser Leu Val Ile Leu Gly Leu Leu  
 35 40 45  
 Phe Val Cys Gly Val Leu Trp Trp Leu Tyr Tyr Asp Tyr Thr Asn  
 50 55 60  
 Asp Leu Ser Ile Glu Leu Asp Thr Glu Arg Glu Asn Met Lys Cys  
 65 70 75  
 Val Leu Gly Phe Ala Ile Val Ser Thr Gly Ile Thr Ala Val Leu  
 80 85 90  
 Leu Val Leu Ile Phe Val Leu Arg Lys Arg Ile Lys Leu Thr Val

	95		100		105
Glu Leu Phe Gln	Ile Thr Asn Lys Ala	Ile Ser Ser Ala Pro	Phe		
	110		115		120
Leu Leu Phe Gln	Pro Leu Trp Thr Phe	Ala Ile Leu Ile Phe	Phe		
	125		130		135
Trp Val Leu Trp	Val Ala Val Leu Leu Ser	Leu Gly Thr Ala Gly			
	140		145		150
Ala Ala Gln Val	Met Glu Gly Gly Gln	Val Glu Tyr Lys Pro	Leu		
	155		160		165
Ser Gly Ile Arg	Tyr Met Trp Ser Tyr	His Leu Ile Gly Leu	Ile		
	170		175		180
Trp Thr Ser Glu	Phe Ile Leu Ala Cys	Gln Gln Met Thr Ile	Ala		
	185		190		195
Gly Ala Val Val	Thr Cys Tyr Phe Asn	Arg Ser Lys Asn Asp	Pro		
	200		205		210
Pro Asp His Pro	Ile Leu Ser Ser Leu	Ser Ile Leu Phe Phe	Tyr		
	215		220		225
His Gln Gly Thr	Val Val Lys Gly Ser	Phe Leu Ile Ser Val	Val		
	230		235		240
Arg Ile Pro Arg	Ile Ile Val Met Tyr	Met Gln Asn Ala Leu	Lys		
	245		250		255
Glu Gln Gln His	Gly Ala Leu Ser Arg	Tyr Leu Phe Arg Cys	Cys		
	260		265		270
Tyr Cys Cys Phe	Trp Cys Leu Asp Lys	Tyr Leu Leu His Leu	Asn		
	275		280		285
Gln Asn Ala Tyr	Thr Thr Thr Ala Ile	Asn Gly Thr Asp Phe	Cys		
	290		295		300
Thr Ser Ala Lys	Asp Ala Phe Lys Ile	Leu Ser Lys Asn Ser	Ser		
	305		310		315
His Phe Thr Ser	Ile Asn Cys Phe Gly	Asp Phe Ile Ile Phe	Leu		
	320		325		330
Gly Lys Val Leu	Val Val Cys Phe Thr	Val Phe Gly Gly Leu	Met		
	335		340		345
Ala Phe Asn Tyr	Asn Arg Ala Phe Gln	Val Trp Ala Val Pro	Leu		
	350		355		360
Leu Leu Val Ala	Phe Phe Ala Tyr Leu	Val Ala His Ser Phe	Leu		
	365		370		375
Ser Val Phe Glu	Thr Val Leu Asp Ala	Leu Phe Leu Cys Phe	Ala		
	380		385		390
Val Asp Leu Glu	Thr Asn Asp Gly Ser	Ser Glu Lys Pro Tyr	Phe		
	395		400		405
Met Asp Gln Glu	Phe Leu Ser Phe Val	Lys Arg Ser Asn Lys	Leu		

410	415	420
Asn Asn Ala Arg Ala Gln Gln Asp Lys His Ser Leu Arg Asn Glu		
425	430	435
Glu Gly Thr Glu Leu Gln Ala Ile Val Arg		
440	445	

<210> 178  
 <211> 2773  
 <212> DNA  
 <213> Homo sapiens

<400> 178  
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 ttctcactat gaaggcatct gttattgaaa tggtccttgt tttgctggtg 250  
 actggagtac attcaacaa agaacggca aagaagatta aaaggcccaa 300  
 gttcactgtg cctcagatca actgcgatgt caaagccgga aagatcatcg 350  
 atcctgagtt catttgtaaa tgtccagcag gatgccaaaga ccccaatac 400  
 catgtttatg gcactgacgt gtatgcatcc tactccagtg tgtgtggcgc 450  
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 ggaaggttgc tggacagtct ggttacaaag ggagtatttc caacggtgtc 550  
 caatcgttat ccctaccacg atggagagaa tcctttatcg tcttagaaa 600  
 taaacccaaa aagggtgtaa cctaccatc agctcttaca tactcatcat 650  
 cgaaaagtcc agctgcccac gcaggtgaga ccacaaaagc ctatcagagg 700  
 ccacatttc cagggacaac tgcacagccg gtcactctga tgcagcttct 750  
 ggctgtcact gtagctgtgg ccacccccac cacttgcca aggccatccc 800  
 cttctgtgtc ttctaccacc agcatcccca gaccacaatc agtgggccac 850  
 aggagccagg agatggatct ctggtccact gccacctaca caagcagcca 900  
 aaacaggccc agagctgac caggtatcca aaggcaagat ccttcaggag 950  
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 aaactgcaaa attgacttgt cgtttttaat tgatggggagc accagcattg 1100  
 gcaaacggcg attccgaatc cagaagcagc tcctggctga tgttgcccaa 1150  
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 agacaacctt gctactcact ttaacctcaa gacacacagc aattctogag 1250

atctgaagac agccatagag aaaattactc agagaggagg acttttcta 1300  
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 ggccacgga caaagtggag gaggttcaa gacttgcgag agagtacgga 1450  
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 gtatgtggtg gagcccaact ttgcaacaa ggccgtgtgc agaacaacg 1550  
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 gaatacagtg cagcccttac gacaggctta cgtagagctt ttgtgagatt 2550  
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<210> 179



<211> 678  
 <212> PRT  
 <213> Homo sapiens

<400> 179

Met	Arg	Thr	Val	Val	Leu	Thr	Met	Lys	Ala	Ser	Val	Ile	Glu	Met
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Phe	Leu	Val	Leu	Leu	Val	Thr	Gly	Val	His	Ser	Asn	Lys	Glu	Thr
			20						25					30
Ala	Lys	Lys	Ile	Lys	Arg	Pro	Lys	Phe	Thr	Val	Pro	Gln	Ile	Asn
			35					40						45
Cys	Asp	Val	Lys	Ala	Gly	Lys	Ile	Ile	Asp	Pro	Glu	Phe	Ile	Val
			50						55					60
Lys	Cys	Pro	Ala	Gly	Cys	Gln	Asp	Pro	Lys	Tyr	His	Val	Tyr	Gly
			65						70					75
Thr	Asp	Val	Tyr	Ala	Ser	Tyr	Ser	Ser	Val	Cys	Gly	Ala	Ala	Val
			80						85					90
His	Ser	Gly	Val	Leu	Asp	Asn	Ser	Gly	Gly	Lys	Ile	Leu	Val	Arg
			95						100					105
Lys	Val	Ala	Gly	Gln	Ser	Gly	Tyr	Lys	Gly	Ser	Tyr	Ser	Asn	Gly
			110						115					120
Val	Gln	Ser	Leu	Ser	Leu	Pro	Arg	Trp	Arg	Glu	Ser	Phe	Ile	Val
			125						130					135
Leu	Glu	Ser	Lys	Pro	Lys	Lys	Gly	Val	Thr	Tyr	Pro	Ser	Ala	Leu
			140						145					150
Thr	Tyr	Ser	Ser	Ser	Lys	Ser	Pro	Ala	Ala	Gln	Ala	Gly	Glu	Thr
			155						160					165
Thr	Lys	Ala	Tyr	Gln	Arg	Pro	Pro	Ile	Pro	Gly	Thr	Thr	Ala	Gln
			170						175					180
Pro	Val	Thr	Leu	Met	Gln	Leu	Leu	Ala	Val	Thr	Val	Ala	Val	Ala
			185						190					195
Thr	Pro	Thr	Thr	Leu	Pro	Arg	Pro	Ser	Pro	Ser	Ala	Ala	Ser	Thr
			200						205					210
Thr	Ser	Ile	Pro	Arg	Pro	Gln	Ser	Val	Gly	His	Arg	Ser	Gln	Glu
			215						220					225
Met	Asp	Leu	Trp	Ser	Thr	Ala	Thr	Tyr	Thr	Ser	Ser	Gln	Asn	Arg
			230						235					240
Pro	Arg	Ala	Asp	Pro	Gly	Ile	Gln	Arg	Gln	Asp	Pro	Ser	Gly	Ala
			245						250					255
Ala	Phe	Gln	Lys	Pro	Val	Gly	Ala	Asp	Val	Ser	Leu	Gly	Leu	Val
			260						265					270
Pro	Lys	Glu	Glu	Leu	Ser	Thr	Gln	Ser	Leu	Glu	Pro	Val	Ser	Leu
			275						280					285
Gly	Asp	Pro	Asn	Cys	Lys	Ile	Asp	Leu	Ser	Phe	Leu	Ile	Asp	Gly



605	610	615
Ala His Leu Lys Gly Val Ile Thr Tyr	Ala Ile Gly Val Ala Trp	
620	625	630
Ala Ala Gln Glu Glu Leu Glu Val Ile	Ala Thr His Pro Ala Arg	
635	640	645
Asp His Ser Phe Phe Val Asp Glu Phe	Asp Asn Leu His Gln Tyr	
650	655	660
Val Pro Arg Ile Ile Gln Asn Ile Cys	Thr Glu Phe Asn Ser Gln	
665	670	675

Pro Arg Asn

<210> 180  
 <211> 1759  
 <212> DNA  
 <213> Homo sapiens

<400> 180  
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 gcgctgctgc ctacgaccca tgggtgcgcca ggtcccgcgc gctccgcgcc 150  
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 ctccaggaca gcgtggactt tgatattgat gtcaacgcct ctgtgtttga 300  
 aacaaacatt cgagtggtag gaggactcct gtctgctcat ctgctctcca 350  
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 ctgagaatgg ctgaggaggc ggcccgaata ctctcccag cctttcagac 450  
 cccactggc atgcatatg gaacagtga cttacttcat ggcgtgaacc 500  
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 ggaccttct caactactac actgtatgga agcagtttgg ggggctcccc 1000

gaattctaca acattcctca gggatacaca gtggagaagc gagaggcgta 1050  
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 gaaaaaatca gcaagggtga gtgcggattt gcaacaatca aagatctgcg 1200  
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 tgaaataacct ctacctctcg tttgacccaa ccaacttcat ccacaacaat 1300  
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 ggctgggggg tacatcttca acacagaagc tcaccccatc gaccttgccg 1400  
 ccctgcactg ctgccagagg ctgaaggaag agcagtgga ggtggaggac 1450  
 ttgatgaggg aattctactc tctcaaacgg agcaggtcga aatttcagaa 1500  
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 cagaaggtcc cacttctcag ctgccccagt cagcccttca cctccaagtt 1650  
 ggcattactg ggacaggttt tctagactc ctcataacca ctggataatt 1700  
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 atcataaaa 1759

<210> 181  
 <211> 541  
 <212> PRT  
 <213> Homo sapiens

<400> 181  
 Met Pro Phe Arg Leu Leu Ile Pro Leu Gly Leu Leu Cys Ala Leu  
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 Leu Pro Gln His His Gly Ala Pro Gly Pro Asp Gly Ser Ala Pro  
 20 25 30  
 Asp Pro Ala His Tyr Ser Phe Ser Leu Thr Leu Ile Asp Ala Leu  
 35 40 45  
 Asp Thr Leu Leu Ile Leu Gly Asn Val Ser Glu Phe Gln Arg Val  
 50 55 60  
 Val Glu Val Leu Gln Asp Ser Val Asp Phe Asp Ile Asp Val Asn  
 65 70 75  
 Ala Ser Val Phe Glu Thr Asn Ile Arg Val Val Gly Gly Leu Leu  
 80 85 90  
 Ser Ala His Leu Leu Ser Lys Lys Ala Gly Val Glu Val Glu Ala  
 95 100 105  
 Gly Trp Pro Cys Ser Gly Pro Leu Leu Arg Met Ala Glu Glu Ala  
 110 115 120  
 Ala Arg Lys Leu Leu Pro Ala Phe Gln Thr Pro Thr Gly Met Pro



	440		445		450									
Cys	Gln	Arg	Leu	Lys	Glu	Glu	Gln	Trp	Glu	Val	Glu	Asp	Leu	Met
	455								460					465
Arg	Glu	Phe	Tyr	Ser	Leu	Lys	Arg	Ser	Arg	Ser	Lys	Phe	Gln	Lys
	470								475					480
Asn	Thr	Val	Ser	Ser	Gly	Pro	Trp	Glu	Pro	Pro	Ala	Arg	Pro	Gly
	485								490					495
Thr	Leu	Phe	Ser	Pro	Glu	Asn	His	Asp	Gln	Ala	Arg	Glu	Arg	Lys
	500								505					510
Pro	Ala	Lys	Gln	Lys	Val	Pro	Leu	Leu	Ser	Cys	Pro	Ser	Gln	Pro
	515								520					525
Phe	Thr	Ser	Lys	Leu	Ala	Leu	Leu	Gly	Gln	Val	Phe	Leu	Asp	Ser
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Ser

<210> 182  
 <211> 2056  
 <212> DNA  
 <213> Homo sapiens

<400> 182  
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 gcttctctggg ccggctctag aacaattcag gcttcgctgc gactcagacc 150  
 tcagctccaa catatgcatt ctgaagaaag atggctgaga tggacagaat 200  
 gctttattttt ggaaagaaac aatgttctag gtcaaactga gtctaccaa 250  
 tgcagacttt cacaatgggt ctagaagaaa tctggacaag tcttttcatg 300  
 tggtttttct acgcattgat tccatgtttg ctcacagatg aagtggccat 350  
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 tcttgatgtg gagcccagtg atcgcgcctg gagaaacagt gtactattct 450  
 gtogaatacc agggggagta cgagagcctg tacacgagcc acatctggat 500  
 cccagcagc tgggtctcac tcaactgaag tccatgagtgt gatgtcactg 550  
 atgacatcac ggccactgtg ccatacaacc ttcgtgtcag ggccacattg 600  
 ggctcacaga cctcagcctg gagcatcctg aagcatccct ttaatagaaa 650  
 ctcaaccatc cttaccggac ctgggatgga gatcaccaaa gatggcttcc 700  
 acctggttat tgagctggag gacctggggc ccagtttga gttccttctg 750  
 gcctactgga ggaggagcc tggtgccgag gaacatgtca aaatggtag 800  
 gagtgggggt attccagtc acctagaaac catggagcca ggggctgcat 850

actgtgtgaa gccccagaca ttcgtgaagg ccattgggag gtacagcgcc 900  
 ttcagccaga cagaatgtgt ggaggtgcaa ggagaggcca ttccctcggt 950  
 actggccctg ttgaccttg ttgcttcat gctgacctt gtggtctgtc 1000  
 cactgttcgt ctggaatatg ggcgggtgct tccagtactc ctgttgcccc 1050  
 gtggtgtgtc tccagacac cttgaaaata accaattcac cccagaagt 1100  
 aatcagctgc agaaggagg aggtggatgc ctgtgccacg gctgtgatgt 1150  
 ctctgagga actcctcagg gcctggatct cataggtttg cggaagggcc 1200  
 caggtgaagc cgagaacctg gtctgcatga catggaacc atgaggggac 1250  
 aagttgtgtt tctgttttcc gccacggaca agggatgaga gaagtaggaa 1300  
 gagcctgttg tctacaagtc tagaagcaac catcagaggc aggggtgttt 1350  
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 gggtgccact tgctggctga gcaaccctgg gaaaagtgc ttcacctctt 1450  
 cggctctaag ttttctcatc tgtaatggg gaattaccta cacacctgct 1500  
 aaacacacac acacagagtc tctctctata tatacacacg tacacataaa 1550  
 tacaccacgc acttgcaagg ctagagggaa actggtgaca ctctacagtc 1600  
 tgactgattc agtgtttctg gagagcagga cataaatgta tgatgagaat 1650  
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 gtgacctgga ggaagggtcac agccacactg aaaatgggat gtgcatgaac 1850  
 acggaggatc catgaactac tgtaaagtgt tgacagtgtg tgcacactgc 1900  
 agacagcagg tgaatatgtat gtgtgcaatg cgacgagaat gcagaagtca 1950  
 gtaacatgtg catgtttgtt gtgtctcttt tttctgttg taaagtacag 2000  
 aattcagcaa ataaaaaggc ccacctggc caaaagcgt aaaaaaaaaa 2050  
 aaaaaa 2056

<210> 183  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> Signal peptide  
 <222> 1-29  
 <223> Signal peptide

<220>  
 <221> N-glycosylation sites  
 <222> 40-43, 134-137

<223> N-glycosylation sites.

<220>

<221> Tissue factor proteins homology

<222> 92-119

<223> Tissue factor proteins homology

<220>

<221> Transmembrane domain

<222> 230-255

<223> Transmembrane domain

<220>

<221> Integrins alpha chain protein homology

<222> 232-262

<223> Integrins alpha chain protein homology

<400> 183

Met Gln Thr Phe Thr Met Val Leu Glu Glu Ile Trp Thr Ser Leu  
1 5 10 15

Phe Met Trp Phe Phe Tyr Ala Leu Ile Pro Cys Leu Leu Thr Asp  
20 25 30

Glu Val Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser  
35 40 45

Thr Asn Met Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro  
50 55 60

Gly Glu Thr Val Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu  
65 70 75

Ser Leu Tyr Thr Ser His Ile Trp Ile Pro Ser Ser Trp Cys Ser  
80 85 90

Leu Thr Glu Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr Ala  
95 100 105

Thr Val Pro Tyr Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln  
110 115 120

Thr Ser Ala Trp Ser Ile Leu Lys His Pro Phe Asn Arg Asn Ser  
125 130 135

Thr Ile Leu Thr Arg Pro Gly Met Glu Ile Thr Lys Asp Gly Phe  
140 145 150

His Leu Val Ile Glu Leu Glu Asp Leu Gly Pro Gln Phe Glu Phe  
155 160 165

Leu Val Ala Tyr Trp Arg Arg Glu Pro Gly Ala Glu Glu His Val  
170 175 180

Lys Met Val Arg Ser Gly Gly Ile Pro Val His Leu Glu Thr Met  
185 190 195

Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala Gln Thr Phe Val Lys  
200 205 210

Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr Glu Cys Val Glu  
215 220 225



Val	Gln	Gly	Glu	Ala	Ile	Pro	Leu	Val	Leu	Ala	Leu	Phe	Ala	Phe
				230					235					240
Val	Gly	Phe	Met	Leu	Ile	Leu	Val	Val	Val	Pro	Leu	Phe	Val	Trp
				245					250					255
Lys	Met	Gly	Arg	Leu	Leu	Gln	Tyr	Ser	Cys	Cys	Pro	Val	Val	Val
				260					265					270
Leu	Pro	Asp	Thr	Leu	Lys	Ile	Thr	Asn	Ser	Pro	Gln	Lys	Leu	Ile
				275					280					285
Ser	Cys	Arg	Arg	Glu	Glu	Val	Asp	Ala	Cys	Ala	Thr	Ala	Val	Met
				290					295					300
Ser	Pro	Glu	Glu	Leu	Leu	Arg	Ala	Trp	Ile	Ser				
				305					310					

<210> 184  
 <211> 808  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 654, 711, 748  
 <223> unknown base

<400> 184  
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 cttttctagc ttcttggccg gctctagaac aattcaggtc tcgctgcgac 100  
 tagacctcag ctccaacata tgcattctga agaaagatgg ctgagatgac 150  
 agaatgcttt attttggaaa gaaacaatgt tctaggtcaa actgagtcta 200  
 ccaaattcgag actttcacia tggttctaga agaaatctgg acaagtcttt 250  
 tcatgtgggtt tttctacgca ttgattccat gtttgctcac agatgaagtg 300  
 gccattctgc ctgcccctca gaacctctct gtactctcaa ccaacatgaa 350  
 gcatctcttg atgtggagcc cagtgatcgc gcctggagaa acagtgtact 400  
 attctgtcga ataccagggg gagtaecgaga gcctgtacac gagccacatc 450  
 tggatcccca gcagctgtgt ctcactcact gaagggtcctg agtgtgatgt 500  
 cactgatgac atcacggcca ctgtgccata caacctttgt gtcagggccca 550  
 cattgggctc acagacctca gcctggagca tcttgaagca tccctttaat 600  
 agaaactcaa ccatccttac ccgacctggg atggagatca ccaaagatgg 650  
 cttncacctg gttattgagc tggaggacct ggggccccag tttgagttcc 700  
 ttgtggccta ntggaggagg ggcgaacccc ttgcggcgca aggggttngc 750  
 gaaccccttg eggccgctgg ggtatctctc gagaaaagag agggccaata 800  
 tgaccacac 808

<210> 185  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 185  
aggcttcgct gcgactagac ctc 23

<210> 186  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 186  
ccaggctcggg taaggatggt tgag 24

<210> 187  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 187  
tttctacgca ttgattccat gtttgcac agatgaagt gccattctgc 50

<210> 188  
<211> 1227  
<212> DNA  
<213> Homo sapiens

<400> 188  
cggacgcgtg ggccgccacc tccggaacaa gccatggtgg cggcgacggt 50  
ggcagcggcg tggctgctcc tgtgggctgc ggcctgcgcg cagcaggagc 100  
aggacttcta cgacttcaag gcggtcaaca tccggggcaa actggtgtgc 150  
ctggagaagt accgcggatc ggtgtccctg gtggtgaatg tggccagcga 200  
gtgcggcttc acagaccagc actaccagc cctgcagcag ctgcagcgag 250  
acctgggctc ccaccacttt aacgtgctcg ccttcccctg caaccagttt 300  
ggccaacagg agcctgacag caacaaggag attgagagct ttgccgccg 350  
cacctacagt gtctcattcc ccatgtttag caagattgca gtcaccggta 400  
ctggtgccca tcctgccttc aagtacctgg ccagacttc tgggaaggag 450  
cccacctgga acttctggaa gtacctagta gccccagatg gaaaggtggt 500  
aggggcttgg gacccaactg tgtcagtgga ggaggtcaga cccagatca 550  
cagcgctcgt gaggaagctc atcctactga agcagaaga cttataacca 600

ccgcgtctcc tctccacca cctcatcccg cccacctgtg tggggctgac 650  
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 tctttacttc ttatgccatt ggtcccatca ttcttgtggg ggaataattc 750  
 tagtattttg attatttgaa tottacagca acaaatagga actcctggcc 800  
 aatgagagct cttgaccagt gaatcaccag ccgatacgaa cgtcttgcca 850  
 acaaaaatgt gtggcaaata gaagtatatc aagcaataat ctcccaccca 900  
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 attaggatga aatacctgtg aaagtgccta ggcagtgcca gccaaatagg 1000  
 aggcattcaa tgaacatttt ttgcatataa accaaaaaat aacttggtat 1050  
 caataaaaac ttgcatccaa catgaatttc cagccgatga taatccaggc 1100  
 caaaggttta gttgttggtta tttcctctgt attattttct tcattacaaa 1150  
 agaaatgcaa gttcattgta acaatccaaa caatacctca cgatataaaa 1200  
 taaaaatgaa agtatcctcc tcaaaaa 1227

<210> 189  
 <211> 187  
 <212> PRT  
 <213> Homo sapiens

<400> 189  
 Met Val Ala Ala Thr Val Ala Ala Ala Trp Leu Leu Leu Trp Ala 15  
 1 5 10  
 Ala Ala Cys Ala Gln Gln Glu Gln Asp Phe Tyr Asp Phe Lys Ala 30  
 20 25  
 Val Asn Ile Arg Gly Lys Leu Val Ser Leu Glu Lys Tyr Arg Gly 45  
 35 40  
 Ser Val Ser Leu Val Val Asn Val Ala Ser Glu Cys Gly Phe Thr 60  
 50 55  
 Asp Gln His Tyr Arg Ala Leu Gln Gln Leu Gln Arg Asp Leu Gly 75  
 65 70  
 Pro His His Phe Asn Val Leu Ala Phe Pro Cys Asn Gln Phe Gly 90  
 80 85  
 Gln Gln Glu Pro Asp Ser Asn Lys Glu Ile Glu Ser Phe Ala Arg 105  
 95 100  
 Arg Thr Tyr Ser Val Ser Phe Pro Met Phe Ser Lys Ile Ala Val 120  
 110 115  
 Thr Gly Thr Gly Ala His Pro Ala Phe Lys Tyr Leu Ala Gln Thr 135  
 125 130  
 Ser Gly Lys Glu Pro Thr Trp Asn Phe Trp Lys Tyr Leu Val Ala 150  
 140 145  
 Pro Asp Gly Lys Val Val Gly Ala Trp Asp Pro Thr Val Ser Val

155 160 165  
 Glu Glu Val Arg Pro Gln Ile Thr Ala Leu Val Arg Lys Leu Ile  
 170 175 180  
 Leu Leu Lys Arg Glu Asp Leu  
 185

<210> 190  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 190  
 gcaggacttc tacgacttca aggc 24

<210> 191  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 191  
 agtctgggcc aggtacttga aggc 24

<210> 192  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 192  
 caacatccgg ggcaaaactgg tgcgctgga gaagtaccgc ggatcggtgt 50

<210> 193  
 <211> 2187  
 <212> DNA  
 <213> Homo sapiens

<400> 193  
 cggacgcgtg ggcgggcccgg gacgcagggc aaagcgagcc atggctgtct 50  
 acgtcgggat gctgcgcctg gggaggctgt gcgccgggag ctcgggggtg 100  
 ctgggggccccc gggccgcccct ctctcggagt tggcaggaag ccaggttgca 150  
 ggggtgtccgc ttccctcagtt ccagagaggt ggatcgcgat gtctccacgc 200  
 ccatcggagg cctcagctac gttcaggggt gcacacaaaa gcactttaac 250  
 agcaagactg tgggccagt cctggagacc acagcacaga ggggtcccaga 300  
 acgagaggcc ttggtcgtcc tccatgaaga cgtcaggttg acctttgcc 350  
 aactcaagga ggaggtggac aaagctgctt ctggcctcct gagcattggc 400

ctctgc aaaag gtgaccggct gggcatgtgg ggacctaaact cctatgcatg 450  
 ggtgctcatg cagttggcca ccgccaggcg gggcatcatt ctggtgtctg 500  
 tgaaccagcg ctaccaggct atggaactgg agtatgtcct caagaagggt 550  
 ggtgcaagg cccttgtgtt cccaagcaa ttcaagacc agcaatacta 600  
 caacgtcctg aagcagatct gtccagaagt ggagaatgcc cagccagggg 650  
 ccttgaagag tcagaggctc ccagatctga ccacagtcat ctcggtggat 700  
 gccctttgc cggggaccct gtcctggat gaagtgttg cggctggcag 750  
 cacacggcag catctggacc agctccaata caaccagcag ttctgtcct 800  
 gccatgacct catcaacatc cagttcacct cggggacaac aggcagcccc 850  
 aagggggcca ccctctccca ctacaacatt gtcaacaact ccaacatttt 900  
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 acctocagag ttgatccgag ccatcatcaa caagataaat atgaaggacc 1250  
 tgggtggttc ttatggaacc acagagaaca gtcccgtagc attcgcgcac 1300  
 ttccctgagg acaactgtga gcagaaggca gaaagcgtgg gcagaattat 1350  
 gctcacacg gagggccgga tcatgaacat ggaggcaggg acgctggcaa 1400  
 agctgaacac gcccggggag ctgtgcatcc gaggtactg cgtcatgctg 1450  
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 gtggtatttg acaggagatg tcgccacaat gaatgagcag ggcttctgca 1550  
 agatcgtggg ccgtcttaag gatatgatca tccgggtggt tgagaacatc 1600  
 taccocgag agctcgagga cttctttcac acacaccgga aggtgcagga 1650  
 agtgacagtg gtgggagtga aggacgatcg gatgggggaa gagatttgtg 1700  
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 gctttctgca aagggaagat ctctcacttc aagattccga agtacatcgt 1800  
 gtttgtcaca aactaccccc tcaccatttc aggaagatc cagaatttca 1850  
 aacttcgaga gcagatggaa cgacatctaa atctgtgaat aaagcagcag 1900  
 gccgtcctg gccggttggc ttgaactctc cctgtcagaa tgcaacctgg 1950  
 ctttatgcac ctatgatgtc ccagcaccca gttctgagcc aggcacatca 2000

aatgtcaagg aattgactga acgaactaag agctcctgga tgggtccggg 2050  
aactcgctg ggcacaagggt gccaaaaggc aggcagcctg cccaggccct 2100  
ccctcctgtc catccccac attccctgt ctgtcctgt gatttggcat 2150  
aaagagcttc tgttttctt gaaaaaaaa aaaaaa 2187

<210> 194  
<211> 615  
<212> PRT  
<213> Homo sapiens

<400> 194  
Met Ala Val Tyr Val Gly Met Leu Arg Leu Gly Arg Leu Cys Ala  
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Gly Ser Ser Gly Val Leu Gly Ala Arg Ala Ala Leu Ser Arg Ser  
20 25 30  
Trp Gln Glu Ala Arg Leu Gln Gly Val Arg Phe Leu Ser Ser Arg  
35 40 45  
Glu Val Asp Arg Met Val Ser Thr Pro Ile Gly Gly Leu Ser Tyr  
50 55 60  
Val Gln Gly Cys Thr Lys Lys His Leu Asn Ser Lys Thr Val Gly  
65 70 75  
Gln Cys Leu Glu Thr Thr Ala Gln Arg Val Pro Glu Arg Glu Ala  
80 85 90  
Leu Val Val Leu His Glu Asp Val Arg Leu Thr Phe Ala Gln Leu  
95 100 105  
Lys Glu Glu Val Asp Lys Ala Ala Ser Gly Leu Leu Ser Ile Gly  
110 115 120  
Leu Cys Lys Gly Asp Arg Leu Gly Met Trp Gly Pro Asn Ser Tyr  
125 130 135  
Ala Trp Val Leu Met Gln Leu Ala Thr Ala Gln Ala Gly Ile Ile  
140 145 150  
Leu Val Ser Val Asn Pro Ala Tyr Gln Ala Met Glu Leu Glu Tyr  
155 160 165  
Val Leu Lys Lys Val Gly Cys Lys Ala Leu Val Phe Pro Lys Gln  
170 175 180  
Phe Lys Thr Gln Gln Tyr Tyr Asn Val Leu Lys Gln Ile Cys Pro  
185 190 195  
Glu Val Glu Asn Ala Gln Pro Gly Ala Leu Lys Ser Gln Arg Leu  
200 205 210  
Pro Asp Leu Thr Thr Val Ile Ser Val Asp Ala Pro Leu Pro Gly  
215 220 225  
Thr Leu Leu Leu Asp Glu Val Val Ala Ala Gly Ser Thr Arg Gln  
230 235 240  
His Leu Asp Gln Leu Gln Tyr Asn Gln Gln Phe Leu Ser Cys His



560	565	570
Ala Phe Cys Lys Gly Lys Ile Ser His Phe Lys Ile Pro Lys Tyr		
575	580	585
Ile Val Phe Val Thr Asn Tyr Pro Leu Thr Ile Ser Gly Lys Ile		
590	595	600
Gln Lys Phe Lys Leu Arg Glu Gln Met Glu Arg His Leu Asn Leu		
605	610	615

<210> 195  
 <211> 642  
 <212> DNA  
 <213> Homo sapiens

<400> 195  
 caactccaac attttaggag agcgccctgaa actgcatgag aagacaccag 50  
 agcagttgcg gatgatcctg cccaaccccc tgtaccattg cctgggttcc 100  
 gtggcaggca caatgatgtg tctgatgtac ggtgccaccc tcatectggc 150  
 ctctcccatc ttcaatggca agaaggcact ggaggccatc agcagagaga 200  
 gaggcacctt cctgtatggt acccccacga tgttcgtgga cattctgaac 250  
 cagccagact tctccagtta tgacatctcg accatgtgtg gaggtgtcat 300  
 tgctgggtcc cctgcaccto cagagttgat ccgagccatc atcaacaaga 350  
 taaatatgaa ggacctgggt gttgcttatg gaaccacaga gaacagtccc 400  
 gtgacattcg cgcacttccc tgaggacact gtggagcaga aggcagaaaag 450  
 cgtgggcaga attatgccto acacggagcg gcggatcatg aacatggagg 500  
 cagggagcgt ggcaaaagctg aacacgcccg gggagctgtg catccgaggg 550  
 tactgcgtca tgctgggcta ctgggtgtgag cctcagaaga cagagggaagc 600  
 agtggatcag gacaagtgtt attggacagg agatgtcgcc ac 642

<210> 196  
 <211> 1575  
 <212> DNA  
 <213> Homo sapiens

<400> 196  
 gagcaggacg gagccatgga cccgcgcagg aaagcaggtg ccagggccat 50  
 gatctggact gcaggctggc tgctgctgct gctgcttcgc ggaggagcgc 100  
 aggccctgga gtgctacagc tgcgtgcaga aagcagatga cggatgtccc 150  
 ccgaacaaga tgaagacagt gaagtgcgcg cggggcgtgg acgtctgcac 200  
 cgaggccgtg ggggcggtgg agaccatcca cggacaattc tcgctggcag 250  
 tgcggggttg cggttcggga ctccccggca agaatagacc cgccctggat 300  
 cttcacgggc ttctggcggt catccagctg cagcaatgcg ctcaggatcg 350



ctgcaacgcc aagctcaacc tcacctcgcg ggcgctcgac ccggcaggta 400  
atgagagtgct ataccggccc aacggcgtgg agtgctacag ctgtgtgggc 450  
ctgagccggg aggcgtgcca gggtagatcg ccgccggtcg ttagctgcta 500  
caacgccagc gatcatgtct acaagggctg ctctgacggc aacgtcacct 550  
tgacggcagc taatgtgact gtgtccttgc ctgtccgggg ctgtgtccag 600  
gatgaattct gcaactcgga tggagtaaca gggccagggt tcacgtctag 650  
tggtctctgt tgccaggggt ccgctgttaa ctctgacctc cgacaacaaga 700  
cctacttctc cctcgaatc ccaccccttg tccggtcgcc cctccagag 750  
cccacgactg tggcctcaac cacatctgtc accacttcta cctcggtccc 800  
agtgagaccc acatccacca ccaaacccat gccagcgcca accagtcaaga 850  
ctccgagaca gggagtagaa cagcaggcct ccggggatga ggagcccagg 900  
ttgactggag gcgcccgtgg ccaccaggac cgcagcaatt cagggcagta 950  
tctgcaaaa ggggggcccc agcagcccca taataaagcg tgtgtggctc 1000  
ccacagctgg attggcagcc ctctgtttgg ccgtggctgc tgggtgccta 1050  
ctgtgagctt ctccacctgg aaatttcctt ctccactact tctctggccc 1100  
tgggtacccc tcttctcact acttctgtt ccaccactg gactgggctg 1150  
gcccagcccc tgtttttcca acattcccca gtatccccag cttctgtctc 1200  
gctgggttgc ggctttggga aataaaatag cgttgtatat attctgccag 1250  
gggtgttcta gctttttgag gacagctcct gtatccttct catcctgttc 1300  
tctcogcttg tctctttgtg atgttaggac agagttagag aagtcagctg 1350  
tcacggggaa ggtgagagag aggatgctaa gcttctact caatttctcc 1400  
tagccagcct ggactttgga gcgtggggtg ggtgggacaa tggctcccca 1450  
ctctaagcac tgctccctct actcccgca tctttgggga atcggttccc 1500  
catatgtctt ccttaactaga ctgtgagctc ctcgaggggg ggcccggtag 1550  
ccaattcgcc ctatagttag togtta 1575

<210> 197  
<211> 346  
<212> PRT  
<213> Homo sapiens

<400> 197  
Met Asp Pro Ala Arg Lys Ala Gly Ala Gln Ala Met Ile Trp Thr  
1 5 10  
Ala Gly Trp Leu Leu Leu Leu Leu Arg Gly Gly Ala Gln Ala  
20 25 30  
Leu Glu Cys Tyr Ser Cys Val Gln Lys Ala Asp Asp Gly Cys Ser

					35					40					45
Pro	Asn	Lys	Met	Lys	Thr	Val	Lys	Cys	Ala	Pro	Gly	Val	Asp	Val	45
				50					55					60	
Cys	Thr	Glu	Ala	Val	Gly	Ala	Val	Glu	Thr	Ile	His	Gly	Gln	Phe	75
				65					70					75	
Ser	Leu	Ala	Val	Arg	Gly	Cys	Gly	Ser	Gly	Leu	Pro	Gly	Lys	Asn	90
				80					85					90	
Asp	Arg	Gly	Leu	Asp	Leu	His	Gly	Leu	Leu	Ala	Phe	Ile	Gln	Leu	105
				95					100					105	
Gln	Gln	Cys	Ala	Gln	Asp	Arg	Cys	Asn	Ala	Lys	Leu	Asn	Leu	Thr	120
				110					115					120	
Ser	Arg	Ala	Leu	Asp	Pro	Ala	Gly	Asn	Glu	Ser	Ala	Tyr	Pro	Pro	135
				125					130					135	
Asn	Gly	Val	Glu	Cys	Tyr	Ser	Cys	Val	Gly	Leu	Ser	Arg	Glu	Ala	150
				140					145					150	
Cys	Gln	Gly	Thr	Ser	Pro	Pro	Val	Val	Ser	Cys	Tyr	Asn	Ala	Ser	165
				155					160					165	
Asp	His	Val	Tyr	Lys	Gly	Cys	Phe	Asp	Gly	Asn	Val	Thr	Leu	Thr	180
				170					175					180	
Ala	Ala	Asn	Val	Thr	Val	Ser	Leu	Pro	Val	Arg	Gly	Cys	Val	Gln	195
				185					190					195	
Asp	Glu	Phe	Cys	Thr	Arg	Asp	Gly	Val	Thr	Gly	Pro	Gly	Phe	Thr	210
				200					205					210	
Leu	Ser	Gly	Ser	Cys	Cys	Gln	Gly	Ser	Arg	Cys	Asn	Ser	Asp	Leu	225
				215					220					225	
Arg	Asn	Lys	Thr	Tyr	Phe	Ser	Pro	Arg	Ile	Pro	Pro	Leu	Val	Arg	240
				230					235					240	
Leu	Pro	Pro	Pro	Glu	Pro	Thr	Thr	Val	Ala	Ser	Thr	Thr	Ser	Val	255
				245					250					255	
Thr	Thr	Ser	Thr	Ser	Ala	Pro	Val	Arg	Pro	Thr	Ser	Thr	Thr	Lys	270
				260					265					270	
Pro	Met	Pro	Ala	Pro	Thr	Ser	Gln	Thr	Pro	Arg	Gln	Gly	Val	Glu	285
				275					280					285	
His	Glu	Ala	Ser	Arg	Asp	Glu	Glu	Pro	Arg	Leu	Thr	Gly	Gly	Ala	300
				290					295					300	
Ala	Gly	His	Gln	Asp	Arg	Ser	Asn	Ser	Gly	Gln	Tyr	Pro	Ala	Lys	315
				305					310					315	
Gly	Gly	Pro	Gln	Gln	Pro	His	Asn	Lys	Gly	Cys	Val	Ala	Pro	Thr	330
				320					325					330	
Ala	Gly	Leu	Ala	Ala	Leu	Leu	Leu	Ala	Val	Ala	Ala	Gly	Val	Leu	345
				335					340					345	

Leu

<210> 198  
 <211> 1657  
 <212> DNA  
 <213> Homo sapiens

<400> 198  
 cgggactcgg cgggtcctcc tgggagtctc ggaggggacc ggctgtgcag 50  
 acgccatgga gtggtgtctg gtcttcctct gcagcctgct ggcccccatg 100  
 gtctcggcca gtgcagctga aaaggagaag gaaatggacc cttttcatta 150  
 tgattaccag accctgagga ttgggggact ggtgttcgct gtggctcctc 200  
 tctcggttgg gatcctcctt atcctaagtc gcaggtgcaa gtgcagtttc 250  
 aatcagaagc cccgggcccc aggagatgag gaagcccagg tggagaacct 300  
 catcaccgcc aatgcaacag agccccagaa gcagagaact gaagtgcagc 350  
 catcaggtag aagcctctgg aacctgaggc ggctgcttga acctttggat 400  
 gcaaagtgcg atgcttaaga aaaccggcca ctcagcaac agccctttcc 450  
 ccaggagaag ccaagaactt gtgtgtcccc caccctatcc cctctaacac 500  
 cattcctcca cctgatgatg caactaacac ttgcctcccc actgcagcct 550  
 gcggtcctgc ccacctccc tgatgtgtgt gtgtgtgtgt gtgtgtgact 600  
 gtgtgtgttt gctaactgtg gtctttgttg ctacttgitt gtggatgcta 650  
 ttgtgtttgt tagtgaactg tggactcgct tccccaggca gggggtgagc 700  
 cacatggcca tctgtcctc cctgcccccg tggccctcca tcacctctg 750  
 ctctaggag gtgctttgtt gcccagacc agccccctcc cctgatttag 800  
 ggatgcgtag ggtaagagca cgggcagtgg tcttcagtcg tctgggacc 850  
 tgggaaggtt tgcagcactt tgtcatcatt ctctcagcac tctttcact 900  
 cctttaacaa aaacotttgt tcttatccc acctgatccc agtctgaagg 950  
 tctcttagca actggagata caaagcaagg agctggtagg ccacagcgtt 1000  
 acgtcaggca ggctatgccc ttccgtggtt aatttcttcc caggggcttc 1050  
 cacgaggagt ccccatctgc cccgcccctt cacagagcgc ccggggattc 1100  
 caggcccagg gcttctactc tgcccctggg gaatgtgtcc cctgcatac 1150  
 ttctcagcaa taactccatg ggctctggga ccctaccctc tccaaccttc 1200  
 cctgcttctg agacttcaat ctacagccca gctcatccag atgcagacta 1250  
 cagtcctctg aattgggtct ctggcaggca atagttgaag gactcctgtt 1300  
 ccgttggggc cagcacaccg ggatggatgg agggagagca gaggcctttg 1350  
 cttctctgcc taegtccctc tagatgggca gcagaggcaa ctccgcctc 1400

ctttgctctg cctgtcgggtg gtcagagcgg tgagcgaggt gggttggaga 1450  
 ctccagcaggc tccgtgcagc ccttggaac agtgagaggt tgaaggtcat 1500  
 aacgagagtg ggaactcaac ccagatcccg ccctcctgt cctctgtgtt 1550  
 ccccgggaaa ccaaccaaac cgtgcgctgt gaccattgc tgttctctgt 1600  
 atcgtgatct atcctcaaca acaacagaaa aaaggaataa aatatccttt 1650  
 gtttct 1657

<210> 199  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 199  
 Met Glu Leu Val Leu Val Phe Leu Cys Ser Leu Leu Ala Pro Met 15  
 1 5 10 15  
 Val Leu Ala Ser Ala Glu Lys Glu Lys Glu Met Asp Pro Phe 30  
 20 25 30  
 His Tyr Asp Tyr Gln Thr Leu Arg Ile Gly Gly Leu Val Phe Ala 45  
 35 40 45  
 Val Val Leu Phe Ser Val Gly Ile Leu Leu Ile Leu Ser Arg Arg 60  
 50 55 60  
 Cys Lys Cys Ser Phe Asn Gln Lys Pro Arg Ala Pro Gly Asp Glu 75  
 65 70 75  
 Glu Ala Gln Val Glu Asn Leu Ile Thr Ala Asn Ala Thr Glu Pro 90  
 80 85 90  
 Gln Lys Gln Arg Thr Glu Val Gln Pro Ser Gly Gly Ser Leu Trp 105  
 95 100 105  
 Asn Leu Arg Arg Leu Leu Glu Pro Leu Asp Ala Asn Val Asp Ala 120  
 110 115 120

<210> 200  
 <211> 415  
 <212> DNA  
 <213> Homo sapiens

<400> 200  
 aaacttgacg ccatgaagat cccggtcctt cctgcctggg tgetcctctc 50  
 cctcctgggtg ctccactctg cccagggagc caacctgggtt ggtcctgagg 100  
 aagaaagcac cattgagaat tatgcgtcac gacccgaggc cttaacacc 150  
 ccgttctcga acatcgacaa attgcgatct gcgtttaagg ctgatgagtt 200  
 cctgaactgg cagccctctt ttgagtctat caaaaggaaa ctctctttcc 250  
 tcaactggga tgcctttctt aagctgaaag gactgaggag cgcaactcct 300  
 gatgcccaagt gaccatgacc tccactggaa gagggggcta gcgtgagcgc 350  
 tgattctcaa cctaccataa ctctttcctg cctcaggaac tccaataaaa 400

cattttccat ccaaa 415

<210> 201

<211> 99

<212> PRT

<213> Homo sapiens

<400> 201

Met	Lys	Ile	Pro	Val	Leu	Pro	Ala	Val	Val	Leu	Leu	Ser	Leu	Leu
1				5					10					15
Val	Leu	His	Ser	Ala	Gln	Gly	Ala	Thr	Leu	Gly	Gly	Pro	Glu	Glu
				20					25					30
Glu	Ser	Thr	Ile	Glu	Asn	Tyr	Ala	Ser	Arg	Pro	Glu	Ala	Phe	Asn
				35					40					45
Thr	Pro	Phe	Leu	Asn	Ile	Asp	Lys	Leu	Arg	Ser	Ala	Phe	Lys	Ala
				50					55					60
Asp	Glu	Phe	Leu	Asn	Trp	His	Ala	Leu	Phe	Glu	Ser	Ile	Lys	Arg
				65					70					75
Lys	Leu	Pro	Phe	Leu	Asn	Trp	Asp	Ala	Phe	Pro	Lys	Leu	Lys	Glu
				80					85					90
Leu	Arg	Ser	Ala	Thr	Pro	Asp	Ala	Gln						
				95										

<210> 202

<211> 678

<212> DNA

<213> Homo sapiens

<400> 202

cagttctgaa atcaatggag ttaatttagg gaatacaaac cagccatggg 50  
ggtggagatt gcctttgcct cagtgtttct cacctgctc tccctttctgg 100  
cagcaggagt ctcccagggt gttcttctcc agccagttcc aactcaggag 150  
acagggtccca aggcacatggg agatctctcc tgtggctttg ccggccactc 200  
atgagagtgt ttttgtgtaa agtatttttt agaatactgt tgactttctc 250  
atgatttaat aaaccatcct tgcaagttt tatgaggctt taggggaatg 300  
tcaaccctca aatttttgggt atactagatg gcttccattt acccaaccat 350  
attttaagggt ccctttattt ttaggttcaa ggttcatttg acttgagaaa 400  
gtgcccttct gcagcttcat tgattttggt tatcttccat attaattgta 450  
acgattaaaa aagaataaga gcacgcagac ctctaggaga atatttttatc 500  
cotgggtgcc cctgacacat ttatgtagtg atcccacaaa tgtgattggt 550  
aatttaaatg ttattotaat attagtacat tcagttgtga tgtaaatatga 600  
ataaccagaa tctatttctt aaaagttttg agtatatttt tcaactagat 650  
atttgatatg aaagactgaa tagtgatg 678

<210> 203  
 <211> 52  
 <212> PRT  
 <213> Homo sapiens

<400> 203  
 Met Gly Val Glu Ile Ala Phe Ala Ser Val Ile Leu Thr Cys Leu  
 1 5 10 15  
 Ser Leu Leu Ala Ala Gly Val Ser Gln Val Val Leu Leu Gln Pro  
 20 25 30  
 Val Pro Thr Gln Glu Thr Gly Pro Lys Ala Met Gly Asp Leu Ser  
 35 40 45  
 Cys Gly Phe Ala Gly His Ser  
 50

<210> 204  
 <211> 1917  
 <212> DNA  
 <213> Homo sapiens

<400> 204  
 ggggaatctg cagtaggtct gccggcgatg gagtgggtgg ctagctcgcc 50  
 gcttcggctc tggctgctgt tgttcctcct gccctcagcg cagggccgcc 100  
 agaaggagtc aggttcaaaa tggaaagtat ttattgacca aattaacagg 150  
 tctttggaga attacgaacc atgttcaagt caaaactgca gctgctacca 200  
 tgggtgcata gaagaggatc taactccttt ccgaggagcg atctccagga 250  
 agatgatggc agaggtatgc agacggaagc tagggacca ctatcagatc 300  
 actaagaaca gactgtaccg ggaaaatgac tgcattgtcc cctcaagggtg 350  
 tagtgggtgt gagcacttta ttttggaagt gatcgggcgt ctccctgaca 400  
 tggagatggt gatcaatgta cgagattatc ctccaggttcc taaatggatg 450  
 gagcctgccca tcccagtctt ctccctcagt aagacatcag agtaccatga 500  
 tatcatgtat cctgcttgga cattttggga agggggacac gctgtttggc 550  
 caatttatcc tacaggtctt ggacggtggg acctcttcag agaagatctg 600  
 gtaaggctcag cagcacagtg gccatggaaa aagaaaaact ctacagcata 650  
 ttcccgagga tcaaggacaa gtccagaacg agatcctctc attcttctgt 700  
 ctcggaaaaa cccaaaactt gttgatgcag aatacaccaa aaaccaggcc 750  
 tggaaatcta tgaagatac cttaggaaag ccagctgcta aggatgtcca 800  
 tcttggtgat cactgcaaat acaagtatct gttaaatctt cgaggcgtag 850  
 ctgcaagttt ccggtttaaa cactctctcc tgtgtggctc actgttttcc 900  
 catgttggtg atgagtggct agaattcttc tatccacagc tgaagccatg 950  
 ggttcactat atccagtc aaacagatct ctccaatgac caagagctgt 1000

tacaatttgt aaaagcaaat gatgatgtag ctcaagagat tgctgaaagg 1050  
 ggaagccagt ttattaggaa ccatttgcag atggatgaca tcacctgtta 1100  
 ctgggagaac ctcttgagtg aatactctaa attcctgtct tataatgtaa 1150  
 cgagaaggaa aggttatgat caaattattc ccaaaatgtt gaaaactgaa 1200  
 ctatagtagt catcatagga ccatagtcct ctttgtggca acagatctca 1250  
 gatatcctac ggtgagaagc ttaccataag cttggctcct ataccttgaa 1300  
 tatctgctat caagccaaat acctgggttt ccttatcatg ctgcacccag 1350  
 agcaactcct gagaaagatt taaaatgtgt ctaatacact gatatgaagc 1400  
 agttcaactt tttggatgaa taaggaccag aaatcgtgag atgtggattt 1450  
 tgaacccaac tctaccttct attttcttaa gaccaatcac agcttgtgcc 1500  
 tcagatcatc cacctgtgtg agtccatcac tgtgaaattg actgtgtcca 1550  
 tgtgatgatg ccctttgtcc cattatttgg agcagaaaat tcgtcatttg 1600  
 gaagtagtac aactcattgc tggaaattgt aaattattca aggcgtgatc 1650  
 tctgtcactt tattttaatg taggaaaccc tatgggggtt atgaaaaata 1700  
 cttggggatc attctctgaa tggcttaagg aagcggtagc catgccatgc 1750  
 aatgatgtag gagttctcct ttgtaaaacc ataaactctg ttactcagga 1800  
 ggtttctata atgccacata gaaagaggcc aattgcatga gtaattattg 1850  
 caattggatt tcaggttccc tttttgtgcc ttcatgcctt acttcttaat 1900  
 gcctctctaa agccaaa 1917

<210> 205  
 <211> 392  
 <212> FRT  
 <213> Homo sapiens

<400> 205  
 Met Glu Trp Trp Ala Ser Ser Pro Leu Arg Leu Trp Leu Leu Leu  
 1 5 10 15  
 Phe Leu Leu Pro Ser Ala Gln Gly Arg Gln Lys Glu Ser Gly Ser  
 20 25 30  
 Lys Trp Lys Val Phe Ile Asp Gln Ile Asn Arg Ser Leu Glu Asn  
 35 40 45  
 Tyr Glu Pro Cys Ser Ser Gln Asn Cys Ser Cys Tyr His Gly Val  
 50 55 60  
 Ile Glu Glu Asp Leu Thr Pro Phe Arg Gly Gly Ile Ser Arg Lys  
 65 70 75  
 Met Met Ala Glu Val Val Arg Arg Lys Leu Gly Thr His Tyr Gln  
 80 85 90  
 Ile Thr Lys Asn Arg Leu Tyr Arg Glu Asn Asp Cys Met Phe Pro

	95		100		105
Ser Arg Cys Ser	Gly Val Glu His Phe	Ile Leu Glu Val Ile	Gly		
	110	115	120		
Arg Leu Pro Asp	Met Glu Met Val Ile	Asn Val Arg Asp Tyr	Pro		
	125	130	135		
Gln Val Pro Lys	Trp Met Glu Pro Ala Ile	Pro Val Phe Ser	Phe		
	140	145	150		
Ser Lys Thr Ser	Glu Tyr His Asp Ile	Met Tyr Pro Ala Trp	Thr		
	155	160	165		
Phe Trp Glu Gly	Gly Pro Ala Val Trp	Pro Ile Tyr Pro Thr	Gly		
	170	175	180		
Leu Gly Arg Trp	Asp Leu Phe Arg Glu	Asp Leu Val Arg Ser	Ala		
	185	190	195		
Ala Gln Trp Pro	Trp Lys Lys Lys Asn	Ser Thr Ala Tyr Phe	Arg		
	200	205	210		
Gly Ser Arg Thr	Ser Pro Glu Arg Asp	Pro Leu Ile Leu Leu	Ser		
	215	220	225		
Arg Lys Asn Pro	Lys Leu Val Asp Ala	Glu Tyr Thr Lys Asn	Gln		
	230	235	240		
Ala Trp Lys Ser	Met Lys Asp Thr Leu	Gly Lys Pro Ala Ala	Lys		
	245	250	255		
Asp Val His Leu	Val Asp His Cys Lys	Tyr Lys Tyr Leu Phe	Asn		
	260	265	270		
Phe Arg Gly Val	Ala Ala Ser Phe Arg	Phe Lys His Leu Phe	Leu		
	275	280	285		
Cys Gly Ser Leu	Val Phe His Val Gly	Asp Glu Trp Leu Glu	Phe		
	290	295	300		
Phe Tyr Pro Gln	Leu Lys Pro Trp Val	His Tyr Ile Pro Val	Lys		
	305	310	315		
Thr Asp Leu Ser	Asn Val Gln Glu Leu	Gln Phe Val Lys	Ala		
	320	325	330		
Asn Asp Asp Val	Ala Gln Glu Ile Ala	Glu Arg Gly Ser Gln	Phe		
	335	340	345		
Ile Arg Asn His	Leu Gln Met Asp Asp	Ile Thr Cys Tyr Trp	Glu		
	350	355	360		
Asn Leu Leu Ser	Glu Tyr Ser Lys Phe	Leu Ser Tyr Asn Val	Thr		
	365	370	375		
Arg Arg Lys Gly	Tyr Asp Gln Ile Ile	Pro Lys Met Leu Lys	Thr		
	380	385	390		
Glu Leu					

<210> 206



<211> 1425  
<212> DNA  
<213> Homo sapiens

<400> 206  
caccacctcca tttctcgcca tggccctctgc actgctcctg atccctgctg 50  
ccctcgctc tttcatcctg gcccttggca ccggagtggg gttctgctgc 100  
tttaacctcc ttggccact tottggaggg atcccgaggt ctgggtgttc 150  
ggatgccgc cagggatggc tggctgcct gcaggaccgc agcatcctg 200  
ccccctggc atgggatctg gggctcctg ttctattgt tgggcagcac 250  
agcctcatgg cagctgaaag agtgaaggca tggacatccc ggtactttgg 300  
ggtccttcag aggtcactgt atgtggcctg cactgccctg gccctgcagc 350  
tggtgatgcg gtactgggag ccataacca aaggccctgt gttgtgggag 400  
gtcgggctg agccatgggc cactgggtg ccgctcctct gctttgtgct 450  
ccatgtcatc tcctggctcc tcactcttag catccttctc gtctttgact 500  
atgctgagct catgggctc aaacagggtat actaccatgt gctggggctg 550  
ggcgagctc tggccctgaa gtctccccg gctctcagac tcttctccca 600  
cctgcgccac ccagtgtgtg tggagctgct gacagtgtg tgggtgtgct 650  
ctacctggg cagggacctg ctctccttg ctttctcct taccctctac 700  
ctgggctgg ctacgggct tgaacagaa gacctcctg acctccggg 750  
ccagctaca agaaaactc acctgctctc tggcccccag gatggggagg 800  
cagagtggg agctcactct ggttacaagc cctgttctc ctctcccat 850  
gaattctaaa tcttaacat ccaggccctg gctgcttcat gccagaggcc 900  
caaatccatg gactgaagga gatgcccctt ctactactg agactttatt 950  
ctctgggtcc agctccatac cctaaattct gaggttcagc cactgaactc 1000  
caaggtecac ttctcaccg caaggaagag tgggggatgg aagtcactg 1050  
tcccttctc gtttagagca tgacactctc cccctcaaca gccctctgag 1100  
aaggaaagga totgcctga ccaactccct ggcaactgta cttgctctg 1150  
cgctcaggg gtccctctct gcaacgctg cttcactcc aagaagggtg 1200  
accagggtct gcaagttcaa cggctatagc tgtccctcca ggcccaacc 1250  
ttgcctcacc aotccgggc ctagtctctg caactcctta ggccctgct 1300  
ctgggctcag accccaacct agtcaagggg attctcctgc tottaactcg 1350  
atgacttggg gctccctgct cccccagga agatgctctg caggaaaata 1400  
aaagtcagcc tttttctaaa aaaaa 1425

<210> 207  
 <211> 262  
 <212> PRT  
 <213> Homo sapiens

<400> 207  
 Met Ala Pro Ala Leu Leu Leu Ile Pro Ala Ala Leu Ala Ser Phe  
 1 5 10  
 Ile Leu Ala Phe Gly Thr Gly Val Glu Phe Val Arg Phe Thr Ser  
 20 25 30  
 Leu Arg Pro Leu Leu Gly Gly Ile Pro Glu Ser Gly Gly Pro Asp  
 35 40 45  
 Ala Arg Gln Gly Trp Leu Ala Ala Leu Gln Asp Arg Ser Ile Leu  
 50 55 60  
 Ala Pro Leu Ala Trp Asp Leu Gly Leu Leu Leu Phe Val Gly  
 65 70 75  
 Gln His Ser Leu Met Ala Ala Glu Arg Val Lys Ala Trp Thr Ser  
 80 85 90  
 Arg Tyr Phe Gly Val Leu Gln Arg Ser Leu Tyr Val Ala Cys Thr  
 95 100 105  
 Ala Leu Ala Leu Gln Leu Val Met Arg Tyr Trp Glu Pro Ile Pro  
 110 115 120  
 Lys Gly Pro Val Leu Trp Glu Ala Arg Ala Glu Pro Trp Ala Thr  
 125 130 135  
 Trp Val Pro Leu Leu Cys Phe Val Leu His Val Ile Ser Trp Leu  
 140 145 150  
 Leu Ile Phe Ser Ile Leu Leu Val Phe Asp Tyr Ala Glu Leu Met  
 155 160 165  
 Gly Leu Lys Gln Val Tyr Tyr His Val Leu Gly Leu Gly Glu Pro  
 170 175 180  
 Leu Ala Leu Lys Ser Pro Arg Ala Leu Arg Leu Phe Ser His Leu  
 185 190 195  
 Arg His Pro Val Cys Val Glu Leu Leu Thr Val Leu Trp Val Val  
 200 205 210  
 Pro Thr Leu Gly Thr Asp Arg Leu Leu Leu Ala Phe Leu Leu Thr  
 215 220 225  
 Leu Tyr Leu Gly Leu Ala His Gly Leu Asp Gln Gln Asp Leu Arg  
 230 235 240  
 Tyr Leu Arg Ala Gln Leu Gln Arg Lys Leu His Leu Leu Ser Arg  
 245 250 255  
 Pro Gln Asp Gly Glu Ala Glu  
 260

<210> 208  
 <211> 2095  
 <212> DNA

<213> Homo sapiens

<400> 208

ccgagcacag gagattgcct gcgttttagga ggtggctgcg ttgtgggaaa 50  
agctatcaag gaagaaattg ccaaaccatg tcttttttcc tgttttcaga 100  
gtagttcaca acagatctga gtgttttaat taagcatgga atacagaaaa 150  
caacaaaaaa cttaagcttt aatttcacat ggaattocac agttttctta 200  
gtcccttgga cccggttgac ctggttgctc tccccgctgg ctgctctatc 250  
acgtggtgct ctccgactac tcaccocgag tgtaaagaac cttcggtcgc 300  
cgtgcttctg agctgctgtg gatggcctcg gctctctgga ctgctcttcc 350  
gagtaggatg tcactgagat cccccaatg gagcctcctg ctgctgtcac 400  
tcttgagttt ctttgtgatg tggtaacctc gccttcccca ctacaatgtg 450  
atagaacgcg tgaactggat gtacttctat gagtatgagc cgatttacag 500  
acaagacttt cacttcacac ttcgagagca ttcaaaactgc tctcatcaaa 550  
atccatttct ggtcattctg gtgacctccc acccttcaga tgtgaaagcc 600  
aggcaggcca ttagagttac ttgggggtgaa aaaaagtctt ggtggggata 650  
tgaggttctt acatttttct tattaggcca agaggctgaa aaggaagaca 700  
aaatgttggc attgtcctta gaggatgaac accttcttta tggtgacata 750  
atccgacaag atttttttag cacatataat aacctgacct tgaaaacat 800  
tatggcattc aggtgggtaa ctgagttttg cccaatgcc aagtacgtaa 850  
tgaagacaga cactgatgtt ttcacataa ctggcaattt agtgaagtat 900  
cttttaaaac taaaccactc agagaagttt ttcacaggtt atcctctaata 950  
tgataattat tccatagag gattttacca aaaaacccat atttcttacc 1000  
aggagtatcc ttcaagggtg ttccctccat actgcagtgg gttgggttat 1050  
ataatgtcca gagatttggt gccaaaggatc tatgaaatga tgggtcacgt 1100  
aaaacccatc aagtttgagg atgtttatgt cgggatctgt ttgaatttat 1150  
taaaagtga cttcatatt ccagaagaca caaatctttt ctttctatat 1200  
agaatccatt tggatgctg tcaactgaga cgtgtgattg cagcccatgg 1250  
cttttcttcc aaggagatca tcaacttttg gcaggctcat ctaaggaaca 1300  
ccacatgcca ttattaactt cacattctac aaaaagccta gaaggacagg 1350  
ataccttgtg gaaagtgtta aataaagtag gtactgtgga aaattcatgg 1400  
ggaggtcagt gtgctggctt aactgaact gaaactcatg aaaaccccag 1450  
actggagact ggagggttac acttgtgatt tattagtcag gcccttcaaa 1500

gatgatattgt ggaggaatta aatataaagg aattggaggt ttttgctaaa 1550  
 gaaattaata ggaccaaaca atttgacat gtcattctgt agactagaat 1600  
 ttcttaaaag ggtgttactg agttataagc tcaactaggt gtaaaaacaa 1650  
 aacaatgtag agtttttatt attgaacaat gtagtcaact gaaggttttg 1700  
 tgtatatctt atgtggatta ccaatttaaa aatatatgta gttctgtgtc 1750  
 aaaaaacttc ttcactgaag ttatactgaa caaaatttta cctgtttttg 1800  
 gtcatttata aagtacttca agatgttgca gtatttcaca gttattatta 1850  
 tttaaaatta cttcaacttt gtgtttttaa atgttttgac gatttcaata 1900  
 caagataaaa aggatagtga atcattcttt acatgcaaac attttccagt 1950  
 tacttaactg atcagtttat tattgatata tcaactccatt aatgtaagt 2000  
 cataggtcat tattgcatat cagtaatctc ttggactttg ttaaatattt 2050  
 tactgttgta atatagagaa gaattaaagc aagaaaatct gaaaa 2095

<210> 209  
 <211> 331  
 <212> PRT  
 <213> Homo sapiens

<400> 209  
 Met Ala Ser Ala Leu Trp Thr Val Leu Pro Ser Arg Met Ser Leu  
 1 5 10 15  
 Arg Ser Leu Lys Trp Ser Leu Leu Leu Leu Ser Leu Leu Ser Phe  
 20 25 30  
 Phe Val Met Trp Trp Tyr Leu Ser Leu Pro His Tyr Asn Val Ile Glu  
 35 40 45  
 Arg Val Asn Trp Met Tyr Phe Tyr Glu Tyr Glu Pro Ile Tyr Arg  
 50 55 60  
 Gln Asp Phe His Phe Thr Leu Arg Glu His Ser Asn Cys Ser His  
 65 70 75  
 Gln Asn Pro Phe Leu Val Ile Leu Val Thr Ser His Pro Ser Asp  
 80 85 90  
 Val Lys Ala Arg Gln Ala Ile Arg Val Thr Trp Gly Glu Lys Lys  
 95 100 105  
 Ser Trp Trp Gly Tyr Glu Val Leu Thr Phe Phe Leu Leu Gly Gln  
 110 115 120  
 Glu Ala Glu Lys Glu Asp Lys Met Leu Ala Leu Ser Leu Glu Asp  
 125 130 135  
 Glu His Leu Leu Tyr Gly Asp Ile Ile Arg Gln Asp Phe Leu Asp  
 140 145 150  
 Thr Tyr Asn Asn Leu Thr Leu Lys Thr Ile Met Ala Phe Arg Trp  
 155 160 165

Val Thr Glu Phe Cys Pro Asn Ala Lys Tyr Val Met Lys Thr Asp  
170 175 180

Thr Asp Val Phe Ile Asn Thr Gly Asn Leu Val Lys Tyr Leu Leu  
185 190 195

Asn Leu Asn His Ser Glu Lys Phe Phe Thr Gly Tyr Pro Leu Ile  
200 205 210

Asp Asn Tyr Ser Tyr Arg Gly Phe Tyr Gln Lys Thr His Ile Ser  
215 220 225

Tyr Gln Glu Tyr Pro Phe Lys Val Phe Pro Pro Tyr Cys Ser Gly  
230 235 240

Leu Gly Tyr Ile Met Ser Arg Asp Leu Val Pro Arg Ile Tyr Glu  
245 250 255

Met Met Gly His Val Lys Pro Ile Lys Phe Glu Asp Val Tyr Val  
260 265 270

Gly Ile Cys Leu Asn Leu Leu Lys Val Asn Ile His Ile Pro Glu  
275 280 285

Asp Thr Asn Leu Phe Phe Leu Tyr Arg Ile His Leu Asp Val Cys  
290 295 300

Gln Leu Arg Arg Val Ile Ala Ala His Gly Phe Ser Ser Lys Glu  
305 310 315

Ile Ile Thr Phe Trp Gln Val Met Leu Arg Asn Thr Thr Cys His  
320 325 330

Tyr

<210> 210  
<211> 745  
<212> DNA  
<213> Homo sapiens

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caacgtcaat gatgacaaca acaatgctgg aagtgggcag cagtcagtga 150  
gtgtcaacaa tgaacacaat gtggccaatg ttgacaataa caacggatgg 200  
gactcctgga attccatctg ggattatgga aatggctttg ctgcaaccag 250  
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tgccctccat tcaatccctt gatgcactgg tcaaggaaaa gaagcttcat 350  
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cccaaacaaa gtcgatgacc tgagcaagtt cggaataaac attgcaaaaa 450  
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ctgttttttt actcaggaac gtgctacacg accagtgtac tatggattgt 550

ggacattttcc ttctgtggag acacgggtgga gaactaaaca attttttaaa 600  
gccactatgg atttagtcat ctgaatatgc tgtgcagaaa aaatatgggc 650  
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<210> 211  
<211> 185  
<212> PRT  
<213> Homo sapiens

<400> 211  
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20 25 30  
Asn Asn Ala Gly Ser Gly Gln Gln Ser Val Ser Val Asn Asn Glu  
35 40 45  
His Asn Val Ala Asn Val Asp Asn Asn Asn Gly Trp Asp Ser Trp  
50 55 60  
Asn Ser Ile Trp Asp Tyr Gly Asn Gly Phe Ala Ala Thr Arg Leu  
65 70 75  
Phe Gln Lys Lys Thr Cys Ile Val His Lys Met Asn Lys Glu Val  
80 85 90  
Met Pro Ser Ile Gln Ser Leu Asp Ala Leu Val Lys Glu Lys Lys  
95 100 105  
Leu Gln Gly Lys Gly Pro Gly Gly Pro Pro Pro Lys Gly Leu Met  
110 115 120  
Tyr Ser Val Asn Pro Asn Lys Val Asp Asp Leu Ser Lys Phe Gly  
125 130 135  
Lys Asn Ile Ala Asn Met Cys Arg Gly Ile Pro Thr Tyr Met Ala  
140 145 150  
Glu Glu Met Gln Glu Ala Ser Leu Phe Phe Tyr Ser Gly Thr Cys  
155 160 165  
Tyr Thr Thr Ser Val Leu Trp Ile Val Asp Ile Ser Phe Cys Gly  
170 175 180  
Asp Thr Val Glu Asn  
185

<210> 212  
<211> 1706  
<212> DNA  
<213> Homo sapiens

<400> 212  
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 ttatatgcta gaatatgagg atgtgaatat aaataagaga agaaaaaaga 250  
 ataaagtaga ttgagtcctc aattttatgt aagcttcaga agaactggtt 300  
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 gacagctctc gaaccaatgt gtttggtcga tttcaaccag agactatagc 400  
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 ctgtcccca ttggtttctt ctttttggtg ctacagaaga ggaaatccag 500  
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 aagaacctga ggatagacaa caggcttcca aaagccctta caatggtgta 800  
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 aaaaaccatg gtcagggtca attgtacttt attatagttg tgtattgttt 1500  
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aaaagt 1706

<210> 213

<211> 299

<212> PRT

<213> Homo sapiens

<400> 213

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Glu	Thr	Ile	Ala	Cys	Ala	Cys	Ile	Tyr	Leu	Ala	Ala	Arg	Ala	Leu	
				20					25					30	
Gln	Ile	Pro	Leu	Pro	Thr	Arg	Pro	His	Trp	Phe	Leu	Leu	Phe	Gly	
				35					40					45	
Thr	Thr	Glu	Glu	Glu	Ile	Gln	Glu	Ile	Cys	Ile	Glu	Thr	Leu	Arg	
				50					55					60	
Leu	Tyr	Thr	Arg	Lys	Lys	Pro	Asn	Tyr	Glu	Leu	Leu	Glu	Lys	Glu	
				65					70					75	
Val	Glu	Lys	Arg	Lys	Val	Ala	Leu	Gln	Glu	Ala	Lys	Leu	Lys	Ala	
				80					85					90	
Lys	Gly	Leu	Asn	Pro	Asp	Gly	Thr	Pro	Ala	Leu	Ser	Thr	Leu	Gly	
				95					100					105	
Gly	Phe	Ser	Pro	Ala	Ser	Lys	Pro	Ser	Ser	Pro	Arg	Glu	Val	Lys	
				110					115					120	
Ala	Glu	Glu	Lys	Ser	Pro	Ile	Ser	Ile	Asn	Val	Lys	Thr	Val	Lys	
				125					130					135	
Lys	Glu	Pro	Glu	Asp	Arg	Gln	Gln	Ala	Ser	Lys	Ser	Pro	Tyr	Asn	
				140					145					150	
Gly	Val	Arg	Lys	Asp	Ser	Lys	Arg	Ser	Arg	Asn	Ser	Arg	Ser	Ala	
				155					160					165	
Ser	Arg	Ser	Arg	Ser	Arg	Thr	Arg	Ser	Arg	Ser	Arg	Ser	His	Thr	
				170					175					180	
Pro	Arg	Arg	His	Tyr	Asn	Asn	Arg	Arg	Ser	Arg	Ser	Gly	Thr	Lys	
				185					190					195	
Ser	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	His	Ser	Glu	Ser	Pro	
				200					205					210	
Arg	Arg	His	His	Asn	His	Gly	Ser	Pro	His	Leu	Lys	Ala	Lys	His	
				215					220					225	
Thr	Arg	Asp	Asp	Leu	Lys	Ser	Ser	Asn	Arg	His	Gly	His	Lys	Arg	
				230					235					240	
Lys	Lys	Ser	Arg	Ser	Arg	Ser	Gln	Ser	Lys	Ser	Arg	Asp	His	Ser	
				245					250					255	
Asp	Ala	Ala	Lys	Lys	His	Arg	His	Glu	Arg	Gly	His	His	Arg	Asp	
				260					265					270	
Arg	Arg	Glu	Arg	Ser	Arg	Ser	Phe	Glu	Arg	Ser	His	Lys	Ser	Lys	



His His Gly Gly Ser Arg Ser Gly His Gly Arg His Arg Arg  
290 295

<210> 214

<211> 730

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 72-73, 85, 91, 127, 226, 268, 454, 484, 513, 566, 663

<223> unknown base

<400> 214

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tcgcatatgg toctagtatt aaattnttat tgcctactga tttttttgag 250  
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agaactggtt tgtttacatg caagcttata gttgaaatat ttttcaggaa 400  
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agccaaacta tgaattactg gaaaaagaag tagaaaaaag aaaagtagcc 650  
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<210> 215

<211> 1807

<212> DNA

<213> Homo sapiens

<400> 215

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ccaccctcat gcacaggctg gcgccacact gctccttcgc gogctggctg 150  
ctctgtaacg gcagtttgtt ccgatacaag caccgcgtctg aggaggagct 200  
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tttttaa 1807

<210> 216

<211> 479  
 <212> PRT  
 <213> Homo sapiens

<400> 216

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				20					25					30
Leu	Leu	Cys	Asn	Gly	Ser	Leu	Phe	Arg	Tyr	Lys	His	Pro	Ser	Glu
				35					40					45
Glu	Glu	Leu	Arg	Ala	Leu	Ala	Gly	Lys	Pro	Arg	Pro	Arg	Gly	Arg
				50					55					60
Lys	Glu	Arg	Trp	Ala	Asn	Gly	Leu	Ser	Glu	Glu	Lys	Pro	Leu	Ser
				65					70					75
Val	Pro	Arg	Asp	Ala	Pro	Phe	Gln	Leu	Glu	Thr	Cys	Pro	Leu	Thr
				80					85					90
Thr	Val	Asp	Ala	Leu	Val	Leu	Arg	Phe	Phe	Leu	Glu	Tyr	Gln	Trp
				95					100					105
Phe	Val	Asp	Phe	Ala	Val	Tyr	Ser	Gly	Gly	Val	Tyr	Leu	Phe	Thr
				110					115					120
Glu	Ala	Tyr	Tyr	Tyr	Met	Leu	Gly	Pro	Ala	Lys	Glu	Thr	Asn	Ile
				125					130					135
Ala	Val	Phe	Trp	Cys	Leu	Leu	Thr	Val	Thr	Phe	Ser	Ile	Lys	Met
				140					145					150
Phe	Leu	Thr	Val	Thr	Arg	Leu	Tyr	Phe	Ser	Ala	Glu	Glu	Gly	Gly
				155					160					165
Glu	Arg	Ser	Val	Cys	Leu	Thr	Phe	Ala	Phe	Leu	Phe	Leu	Leu	Leu
				170					175					180
Ala	Met	Leu	Val	Gln	Val	Val	Arg	Glu	Glu	Thr	Leu	Glu	Leu	Gly
				185					190					195
Leu	Glu	Pro	Gly	Leu	Ala	Ser	Met	Thr	Gln	Asn	Leu	Glu	Pro	Leu
				200					205					210
Leu	Lys	Lys	Gln	Gly	Trp	Asp	Trp	Ala	Leu	Pro	Val	Ala	Lys	Leu
				215					220					225
Ala	Ile	Arg	Val	Gly	Leu	Ala	Val	Val	Gly	Ser	Val	Leu	Gly	Ala
				230					235					240
Phe	Leu	Thr	Phe	Pro	Gly	Leu	Arg	Leu	Ala	Gln	Thr	His	Arg	Asp
				245					250					255
Ala	Leu	Thr	Met	Ser	Glu	Asp	Arg	Pro	Met	Leu	Gln	Phe	Leu	Leu
				260					265					270
His	Thr	Ser	Phe	Leu	Ser	Pro	Leu	Phe	Ile	Leu	Trp	Leu	Trp	Thr
				275					280					285
Lys	Pro	Ile	Ala	Arg	Asp	Phe	Leu	His	Gln	Pro	Pro	Phe	Gly	Glu

	290		295		300
Thr Arg Phe Ser	Leu Leu Ser Asp Ser	Ala Phe Asp Ser Gly	Arg		
	305		310		315
Leu Trp Leu Leu	Val Val Leu Cys Leu	Leu Arg Leu Ala Val	Thr		
	320		325		330
Arg Pro His Leu	Gln Ala Tyr Leu Cys	Leu Ala Lys Ala Arg	Val		
	335		340		345
Glu Gln Leu Arg	Arg Glu Ala Gly Arg	Ile Glu Ala Arg Glu	Ile		
	350		355		360
Gln Gln Arg Val	Val Arg Val Tyr Cys	Tyr Val Thr Val Val	Ser		
	365		370		375
Leu Gln Tyr Leu	Thr Pro Leu Ile Leu	Thr Leu Asn Cys Thr	Leu		
	380		385		390
Leu Leu Lys Thr	Leu Gly Gly Tyr Ser	Trp Gly Leu Gly Pro	Ala		
	395		400		405
Pro Leu Leu Ser	Pro Asp Pro Ser Ser	Ala Ser Ala Ala Pro	Ile		
	410		415		420
Gly Ser Gly Glu	Asp Glu Val Gln Gln	Thr Ala Ala Arg Ile	Ala		
	425		430		435
Gly Ala Leu Gly	Gly Leu Leu Thr Pro	Leu Phe Leu Arg Gly	Val		
	440		445		450
Leu Ala Tyr Leu	Ile Trp Trp Thr Ala	Ala Cys Gln Leu Leu	Ala		
	455		460		465
Ser Leu Phe Gly	Leu Tyr Phe His Gln	His Leu Ala Gly Ser			
	470		475		

<210> 217  
 <211> 574  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 5, 146  
 <223> unknown base

<400> 217  
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 ccagccaagg agactaacat tgetgtgttc tgggtgctgc tcacagtgc 450  
 cttctocatc aagatgttcc tgacagtgc acggtgtgc ttcagcgccg 500  
 aggagggggg tgagcgtctc gtctgcctca cctttgcctt cctcttctg 550  
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<210> 218  
 <211> 2571  
 <212> DNA  
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<400> 218  
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 aggcgtctac aagatggctg tccagacggc tgtgcgagcc tcacagccac 400  
 ggctccctcc ccagagggtt ctgcagctgc caccatctcc ttaatgacag 450  
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tgtggctgga attaccacgg tgcttgata actgtaaaga tattgtatta 1850  
cgaagaaaca cagctggaag tctgggcttc tgcatgtag gaggttatga 1900  
agaatacaat ggaacaaac ctttttcat caaatccatt gttgaaggaa 1950  
caccagcata caatgatgga agaattagat gtggtgatat tcttcttgct 2000  
gtcaatgta gaagtacatc aggaatgata catgcttgct tggcaagact 2050  
gctgaaagaa cttaaaggaa gaattactct aactattgtt tcttggcctg 2100  
gcacttttt atagaatcaa tgatgggtca gaggaaca gaaaaatcac 2150  
aaataggcta agaagttgaa acactatatt tatcttgta gtttttata 2200  
ttaaagaag aatacattgt aaaaatgtca gaaaagat gatcatctaa 2250  
tgaaagccag ttacacctca gaaaatatga ttocaaaaaa attaaaacta 2300  
ctagtttttt ttcagtggtg aggtttctc attactctac aacattggtt 2350  
atattttttc tattcaataa aaagccctaa aacaactaaa atgattgatt 2400  
tgtatacccc actgaattca agctgattta aatttaaaat ttggtatatg 2450  
ctgaagtctg ccaagggtac attatggcca tttttaattt acagctaaaa 2500  
tattttttta aatgcattgc tgagaaacgt tgctttcatc aaacaagaat 2550  
aaatattttt cagaagttaa a 2571

<210> 219

<211> 632

<212> PRT

<213> Homo sapiens

<400> 219

Met Lys Ala Leu Leu Leu Leu Val Leu Pro Trp Leu Ser Pro Ala

1	5	10	15
Asn Tyr Ile Asp	Asn Val Gly Asn Leu His	Phe Leu Tyr Ser	Glu
	20	25	30
Leu Cys Lys Gly	Ala Ser His Tyr Gly	Leu Thr Lys Asp Arg	Lys
	35	40	45
Arg Arg Ser Gln	Asp Gly Cys Pro Asp	Gly Cys Ala Ser Leu Thr	
	50	55	60
Ala Thr Ala Pro	Ser Pro Glu Val Ser	Ala Ala Thr Ile Ser	
	65	70	75
Leu Met Thr Asp	Glu Pro Gly Leu Asp	Asn Pro Ala Tyr Val Ser	
	80	85	90
Ser Ala Glu Asp	Gly Gln Pro Ala Ile	Ser Pro Val Asp Ser	Gly
	95	100	105
Arg Ser Asn Arg	Thr Arg Ala Arg Pro	Phe Glu Arg Ser Thr	Ile
	110	115	120
Arg Ser Arg Ser	Phe Lys Lys Ile Asn	Arg Ala Leu Ser Val	Leu
	125	130	135
Arg Arg Thr Lys	Ser Gly Ser Ala Val	Ala Asn His Ala Asp	Gln
	140	145	150
Gly Arg Glu Asn	Ser Glu Asn Thr Thr	Ala Pro Glu Val Phe	Pro
	155	160	165
Arg Leu Tyr His	Leu Ile Pro Asp Gly	Glu Ile Thr Ser Ile	Lys
	170	175	180
Ile Asn Arg Val	Asp Pro Ser Glu Ser	Leu Ser Ile Arg Leu	Val
	185	190	195
Gly Gly Ser Glu	Thr Pro Leu Val His	Ile Ile Ile Gln His	Ile
	200	205	210
Tyr Arg Asp Gly	Val Ile Ala Arg Asp	Gly Arg Leu Leu Pro	Gly
	215	220	225
Asp Ile Ile Leu	Lys Val Asn Gly Met	Asp Ile Ser Asn Val	Pro
	230	235	240
His Asn Tyr Ala	Val Arg Leu Leu Arg	Gln Pro Cys Gln Val	Leu
	245	250	255
Trp Leu Thr Val	Met Arg Glu Gln Lys	Phe Arg Ser Arg Asn	Asn
	260	265	270
Gly Gln Ala Pro	Asp Ala Tyr Arg Pro	Arg Asp Asp Ser Phe	His
	275	280	285
Val Ile Leu Asn	Lys Ser Ser Pro Glu	Gln Leu Gly Ile	Lys
	290	295	300
Leu Val Arg Lys	Val Asp Glu Pro Gly	Val Phe Ile Phe Asn	Val
	305	310	315
Leu Asp Gly Gly	Val Ala Tyr Arg His	Gly Gln Leu Glu Glu	Asn





<210> 220  
 <211> 773  
 <212> DNA  
 <213> Homo sapiens

<400> 220  
 ccaaagtgat catttgaaaa agagatatcc acatcttcaa gcccatataa 50  
 aggatagaag ctgcacaggg cagctttact tactccagca cttcctctc 100  
 ccaggcaaat ggtgctgacc atctttggga tacaatctca tggatacag 150  
 gtttttaaca tcatcagccc aagcaacaat ggtggcaatg ttcaggagac 200  
 agtgacaatt gataatgaaa aaaataccgc catcggttaac atccatgcag 250  
 gatcatgctc ttctaccaca atttttgact ataaacatgg ctacattgca 300  
 tcacgggtgc tctcccgaag agcctgcttt atcctgaaga tggaccatca 350  
 gaacatccct cctctgaaca atctccaatg gtacatctat gagaacacag 400  
 ctctggacaa catgttctcc aacaaatata cctgggtcaa gtacaacct 450  
 ctggagtctc tgatcaaaga cgtggattgg ttctctgttg ggtcacccat 500  
 tgagaaactc tgcaaacata tccctttgta taagggggaa gtgggtgaaa 550  
 acacacataa tgtcgggtgct ggaggctgtg caaaggctgg gtcctctggc 600  
 atcttgggaa tttcaatctg tgcagacatt catgtttagg atgattagcc 650  
 ctctgttttt atcttttcaa agaaatacat ccttgggtta cactcaaaa 700  
 tcaaattaaa ttctttccca atgcccacac taattttgag attcagtcag 750  
 aaaatataaa tgctgtattt ata 773

<210> 221  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 221  
 Met Lys Ile Leu Val Ala Phe Leu Val Val Leu Thr Ile Phe Gly  
 1 5 10 15  
 Ile Gln Ser His Gly Tyr Glu Val Phe Asn Ile Ile Ser Pro Ser  
 20 25 30  
 Asn Asn Gly Gly Asn Val Gln Glu Thr Val Thr Ile Asp Asn Glu  
 35 40 45  
 Lys Asn Thr Ala Ile Val Asn Ile His Ala Gly Ser Cys Ser Ser  
 50 55 60  
 Thr Thr Ile Phe Asp Tyr Lys His Gly Tyr Ile Ala Ser Arg Val  
 65 70 75  
 Leu Ser Arg Arg Ala Cys Phe Ile Leu Lys Met Asp His Gln Asn  
 80 85 90

Ile Pro Pro Leu Asn Asn Leu Gln Trp Tyr Ile Tyr Glu Lys Gln  
95 100 105

Ala Leu Asp Asn Met Phe Ser Asn Lys Tyr Thr Trp Val Lys Tyr  
110 115 120

Asn Pro Leu Glu Ser Leu Ile Lys Asp Val Asp Trp Phe Leu Leu  
125 130 135

Gly Ser Pro Ile Glu Lys Leu Cys Lys His Ile Pro Leu Tyr Lys  
140 145 150

Gly Glu Val Val Glu Asn Thr His Asn Val Gly Ala Gly Gly Cys  
155 160 165

Ala Lys Ala Gly Leu Leu Gly Ile Leu Gly Ile Ser Ile Cys Ala  
170 175 180

Asp Ile His Val

<210> 222  
<211> 992  
<212> DNA  
<213> Homo sapiens

<400> 222  
ggcacgagcc aggaactagg aggttctc ac tgcccagagca gaggccctac 50

accacccag gcatggggct ccctgggctg ttctgcttgg ccgtgtgtgg 100

tgccagcagc ttctccaagg caccggagga agaaattacc cctgtggtct 150

ccattgccta caaagtcctg gaagttttcc ccaaaggccg ctgggtgctc 200

ataacctgct gtgcacccca gccaccaccg cccatcacct attccctctg 250

tggaaccaag aacatcaagg tggccaagaa ggtggtgaag acccacgagc 300

cggcctcctt caacctcaac gtcacactca agtccagtcc agacctgctc 350

acctacttct gcgggggctc ctccacctca ggtgcccatg tggacagtgc 400

caggctacag atgcactggg agctgtggtc caagccagtg tctgagctgc 450

gggccaactt cactctgcag gacagagggg caggccccag ggtggagatg 500

atctgccagg cgtctctcgg cagcccaact atcaccaaca gcctgatcgg 550

gaaggatggg cagggtccacc tgcagcagag accatgccac aggcagcctg 600

ccaaattctc ctctctgcag agccagacat cggactgggt ctggtgccag 650

gctgcaaaca acgccaatgt ccagcacagc gccctcacag tgggtccccc 700

aggtggtgac cagaagatgg aggactggca gggctccctg gagagcccca 750

tccttgctt gcgcgtctac aggagcacc cgcgtctgag tgaagaggag 800

tttggggggt tcaggatagg gaatggggag gtcagaggac gcaagcagc 850

agccatgtag aatgaaccgt ccagagagcc aagcacggca gaggactgca 900

ggccatcagc gtgcactgtt cgtattttgga gttcatgcaa aatgagtgtg 950

ttttagctgc tcttgccaca aaaaaaaaaa aaaaaaaaaa aa 992

<210> 223

<211> 265

<212> PRT

<213> Homo sapiens

<400> 223

Met Gly Leu Pro Gly Leu Phe Cys Leu Ala Val Leu Ala Ala Ser  
1 5 10 15

Ser Phe Ser Lys Ala Arg Glu Glu Glu Ile Thr Pro Val Val Ser  
20 25 30

Ile Ala Tyr Lys Val Leu Glu Val Phe Pro Lys Gly Arg Trp Val  
35 40 45

Leu Ile Thr Cys Cys Ala Pro Gln Pro Pro Pro Ile Thr Tyr  
50 55 60

Ser Leu Cys Gly Thr Lys Asn Ile Lys Val Ala Lys Lys Val Val  
65 70 75

Lys Thr His Glu Pro Ala Ser Phe Asn Leu Asn Val Thr Leu Lys  
80 85 90

Ser Ser Pro Asp Leu Leu Thr Tyr Phe Cys Arg Ala Ser Ser Thr  
95 100 105

Ser Gly Ala His Val Asp Ser Ala Arg Leu Gln Met His Trp Glu  
110 115 120

Leu Trp Ser Lys Pro Val Ser Glu Leu Arg Ala Asn Phe Thr Leu  
125 130 135

Gln Asp Arg Gly Ala Gly Pro Arg Val Glu Met Ile Cys Gln Ala  
140 145 150

Ser Ser Gly Ser Pro Pro Ile Thr Asn Ser Leu Ile Gly Lys Asp  
155 160 165

Gly Gln Val His Leu Gln Gln Arg Pro Cys His Arg Gln Pro Ala  
170 175 180

Asn Phe Ser Phe Leu Pro Ser Gln Thr Ser Asp Trp Phe Trp Cys  
185 190 195

Gln Ala Ala Asn Asn Ala Asn Val Gln His Ser Ala Leu Thr Val  
200 205 210

Val Pro Pro Gly Gly Asp Gln Lys Met Glu Asp Trp Gln Gly Pro  
215 220 225

Leu Glu Ser Pro Ile Leu Ala Leu Pro Leu Tyr Arg Ser Thr Arg  
230 235 240

Arg Leu Ser Glu Glu Glu Phe Gly Gly Phe Arg Ile Gly Asn Gly  
245 250 255

Glu Val Arg Gly Arg Lys Ala Ala Ala Met  
260 265

<210> 224  
 <211> 1297  
 <212> DNA  
 <213> Homo sapiens

<400> 224  
 ggtccttaaat ggcagcagcc gccgctacca agatccttct gtgcctcccg 50  
 cttctgtctcc tgctgtccgg ctgggtccgg gctgggcgag ccgaccctca 100  
 ctctctttgc tatgacatca ccgtcatccc taagttcaga cctggaccac 150  
 ggtggtgtgc ggttcaaggc caggtggatg aaaagacttt tcttactat 200  
 gactgtggca acaagacagt cacacctgtc agtcccctgg ggaagaaact 250  
 aaatgtcaca acggcctgga aagcacagaa ccagtagctg agagaggttg 300  
 tggacatact tacagagcaa ctgcgtgaca ttcagctgga gaattacaca 350  
 cccaaggaac cctcacccct gcaggcaagg atgtcttggt agcagaaaag 400  
 tgaaggacac agcagtggtat cttggcagtt cagtttcgat ggcagatct 450  
 tcctcctctt tgactcagag aagagaatgt ggacaacggt tcactctgga 500  
 gccagaaaaga tgaagaaaaa gtggggagaat gacaaggttg tggccatgto 550  
 cttccattac ttctcaatgg gagactgtat aggatggctt gaggactctt 600  
 tgatgggcat ggacagcacc ctggagccaa gtgcaggagc accactcgcc 650  
 atgtctcag gcacaaccca actcaggggc acagccacca cctcatcct 700  
 ttgctgccto ctcacatccc tcccctgctt catcctcctt ggcactctgag 750  
 gagagtcctt tagagtgaca ggttaaagct gatacaaaa ggctcctgtg 800  
 agcacggtct tgatcaaaact cgccttctg tctggccagc tgcocacgac 850  
 ctacggtgta tgtccagtg cctccagcag atcatgatga catcatggac 900  
 ccaatagctc attcaactgcc ttgattcctt ttgccacaaa ttttaccagc 950  
 agttatacct aacatattat gcaattttct cttggtgcta cctgatggaa 1000  
 ttctcgcact taaagtctgt gctgactaaa caagatatat cattttcttt 1050  
 cttctctttt tgtttggaaa atcaagtact tctttgaatg atgatctctt 1100  
 tcttgcaaat gatattgtca gtaaaataat caggttagac ttcagacctc 1150  
 tggggattct ttcogtgtcc tgaagagaa tttttaaatt atttaataag 1200  
 aaaaaattta tattaatgat tgtttccttt agtaatttat tgttctgtac 1250  
 tgatatattaa ataaagagtt ctatttccca aaaaaaaaaa aaaaaaa 1297

<210> 225  
 <211> 246  
 <212> PRT  
 <213> Homo sapiens

<400> 225

Met Ala Ala Ala Ala Ala Thr Lys Ile Leu Leu Cys Leu Pro Leu  
1 5 10 15  
Leu Leu Leu Leu Ser Gly Trp Ser Arg Ala Gly Arg Ala Asp Pro  
20 25 30  
His Ser Leu Cys Tyr Asp Ile Thr Val Ile Pro Lys Phe Arg Pro  
35 40 45  
Gly Pro Arg Trp Cys Ala Val Gln Gly Gln Val Asp Glu Lys Thr  
50 55 60  
Phe Leu His Tyr Asp Cys Gly Asn Lys Thr Val Thr Pro Val Ser  
65 70 75  
Pro Leu Gly Lys Lys Leu Asn Val Thr Thr Ala Trp Lys Ala Gln  
80 85 90  
Asn Pro Val Leu Arg Glu Val Val Asp Ile Leu Thr Glu Gln Leu  
95 100 105  
Arg Asp Ile Gln Leu Glu Asn Tyr Thr Pro Lys Glu Pro Leu Thr  
110 115 120  
Leu Gln Ala Arg Met Ser Cys Glu Gln Lys Ala Glu Gly His Ser  
125 130 135  
Ser Gly Ser Trp Gln Phe Ser Phe Asp Gly Gln Ile Phe Leu Leu  
140 145 150  
Phe Asp Ser Glu Lys Arg Met Trp Thr Thr Val His Pro Gly Ala  
155 160 165  
Arg Lys Met Lys Glu Lys Trp Glu Asn Asp Lys Val Val Ala Met  
170 175 180  
Ser Phe His Tyr Phe Ser Met Gly Asp Cys Ile Gly Trp Leu Glu  
185 190 195  
Asp Phe Leu Met Gly Met Asp Ser Thr Leu Glu Pro Ser Ala Gly  
200 205 210  
Ala Pro Leu Ala Met Ser Ser Gly Thr Thr Gln Leu Arg Ala Thr  
215 220 225  
Ala Thr Thr Leu Ile Leu Cys Cys Leu Leu Ile Ile Leu Pro Cys  
230 235 240  
Phe Ile Leu Pro Gly Ile  
245

<210> 226

<211> 735

<212> DNA

<213> Homo sapiens

<400> 226

gggaaagcca tttagaaac ccatctatac aaactatata ttttcatttc 50

tgctgctagc tgccttgggc ctcacaattt tcattctgtt ttctgacttt 100

caagttatat accgtggaat ggagttgata ccaaccataa catcgtggag 150

gggtttaatt ttggtggtag ccctcaccga attctggtgt ggctttcttt 200  
 gcagaggatt ccaccttcaa aatcatgaac tctggctgtt gatcaaaaga 250  
 gaatttggtat tctactctaa aagtcaatat aggacttggc aaaagaagct 300  
 agcagaagac tcaacctggc ctcccataaa caggacagat tattcagggtg 350  
 atggcaaaaa tggtattctac atcaacggag gctatgaaag ccatgaacag 400  
 attccaaaaa gaaaactcaa attgggaggc caaccacag aacagcattt 450  
 ctggggcagg ctgtaatcag aattgtcgtc gtacatgctc aacagcattg 500  
 cttttttccc caaaattaac acattgtgga gaagtgtatg tactctcccc 550  
 ttacctttcc tctctccatt caagcattca aagtatatatt tcaatgaatt 600  
 aaaccttgca gcaagggacc ttagataggc ttattctgac tgtatgcttt 650  
 accaatgaga gaaaaaaatg catttctgt atcatccttt tcaataaact 700  
 gtattcattt tgaaaaaaa aaaaaaaaa aaaaa 735

<210> 227  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 227  
 Met Glu Leu Ile Pro Thr Ile Thr Ser Trp Arg Val Leu Ile Leu  
 1 5 10 15  
 Val Val Ala Leu Thr Gln Phe Trp Cys Gly Phe Leu Cys Arg Gly  
 20 25 30  
 Phe His Leu Gln Asn His Glu Leu Trp Leu Ile Lys Arg Glu  
 35 40 45  
 Phe Gly Phe Tyr Ser Lys Ser Gln Tyr Arg Thr Trp Gln Lys Lys  
 50 55 60  
 Leu Ala Glu Asp Ser Thr Trp Pro Pro Ile Asn Arg Thr Asp Tyr  
 65 70 75  
 Ser Gly Asp Gly Lys Asn Gly Phe Tyr Ile Asn Gly Gly Tyr Glu  
 80 85 90  
 Ser His Glu Gln Ile Pro Lys Arg Lys Leu Lys Leu Gly Gly Gln  
 95 100 105  
 Pro Thr Glu Gln His Phe Trp Ala Arg Leu  
 110 115

<210> 228  
 <211> 2185  
 <212> DNA  
 <213> Homo sapiens

<400> 228  
 gttctccttt ccgagccaaa atcccaggcg atggtgaatt atgaacgtgc 50  
 cacaccatga agctcttgtg gcaggttaact gtgcaccacc acacctggaa 100



aaacttcgta agcggcacca gcagcggagt acagtcacag ccccccggac 1750  
 tgttgagata atccaggtgg acgaagacat cccagcagca acatccgcag 1800  
 cagcaacagc agctccgtcc ggtgtatcag gtgagggggc agtagtgetg 1850  
 cccacaattc atgaccatat taactacaac acctacaaac cagcacatgg 1900  
 ggcccactgg acagaaaaa gcttggggaa ctctctgcac cccacagtca 1950  
 ccactatctc tgaaccttat ataattcaga ccataccaa ggacaaggta 2000  
 caggaaaactc aaatatgact cccctcccc aaaaaactta taaaatgcaa 2050  
 tagaatgcac acaaagacag caacttttgt acagagtggg gagagacttt 2100  
 ttcttgtata tgcttatata ttaagtctat gggctgggta aaaaaaacag 2150  
 attatattaa aatttaaaga caaaaagtca aaaca 2185

<210> 229  
 <211> 653  
 <212> PRT  
 <213> Homo sapiens

<400> 229  
 Met Lys Leu Leu Trp Gln Val Thr Val His His His Thr Trp Asn  
 1 5 10 15  
 Ala Ile Leu Leu Pro Phe Val Tyr Leu Thr Ala Gln Val Trp Ile  
 20 25 30  
 Leu Cys Ala Ala Ile Ala Ala Ala Ala Ser Ala Gly Pro Gln Asn  
 35 40 45  
 Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val Val  
 50 55 60  
 Cys Thr Arg Arg Gly Leu Ser Glu Val Pro Gln Gly Ile Pro Ser  
 65 70 75  
 Asn Thr Arg Tyr Leu Asn Leu Met Glu Asn Asn Ile Gln Met Ile  
 80 85 90  
 Gln Ala Asp Thr Phe Arg His Leu His His Leu Glu Val Leu Gln  
 95 100 105  
 Leu Gly Arg Asn Ser Ile Arg Gln Ile Glu Val Gly Ala Phe Asn  
 110 115 120  
 Gly Leu Ala Ser Leu Asn Thr Leu Glu Leu Phe Asp Asn Trp Leu  
 125 130 135  
 Thr Val Ile Pro Ser Gly Ala Phe Glu Tyr Leu Ser Lys Leu Arg  
 140 145 150  
 Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser Tyr  
 155 160 165  
 Ala Phe Asn Arg Val Pro Ser Leu Met Arg Leu Asp Leu Gly Glu  
 170 175 180  
 Leu Lys Lys Leu Glu Tyr Ile Ser Glu Gly Ala Phe Glu Gly Leu



185					190					195				
Phe	Asn	Leu	Lys	Tyr	Leu	Asn	Leu	Gly	Met	Cys	Asn	Ile	Lys	Asp
				200					205					210
Met	Pro	Asn	Leu	Thr	Pro	Leu	Val	Gly	Leu	Glu	Glu	Leu	Glu	Met
				215					220					225
Ser	Gly	Asn	His	Phe	Pro	Glu	Ile	Arg	Pro	Gly	Ser	Phe	His	Gly
				230					235					240
Leu	Ser	Ser	Leu	Lys	Lys	Leu	Trp	Val	Met	Asn	Ser	Gln	Val	Ser
				245					250					255
Leu	Ile	Glu	Arg	Asn	Ala	Phe	Asp	Gly	Leu	Ala	Ser	Leu	Val	Glu
				260					265					270
Leu	Asn	Leu	Ala	His	Asn	Asn	Leu	Ser	Ser	Leu	Pro	His	Asp	Leu
				275					280					285
Phe	Thr	Pro	Leu	Arg	Tyr	Leu	Val	Glu	Leu	His	Leu	His	His	Asn
				290					295					300
Pro	Trp	Asn	Cys	Asp	Cys	Asp	Ile	Leu	Trp	Leu	Ala	Trp	Trp	Leu
				305					310					315
Arg	Glu	Tyr	Ile	Pro	Thr	Asn	Ser	Thr	Cys	Cys	Gly	Arg	Cys	His
				320					325					330
Ala	Pro	Met	His	Met	Arg	Gly	Arg	Tyr	Leu	Val	Glu	Val	Asp	Gln
				335					340					345
Ala	Ser	Phe	Gln	Cys	Ser	Ala	Pro	Phe	Ile	Met	Asp	Ala	Pro	Arg
				350					355					360
Asp	Leu	Asn	Ile	Ser	Glu	Gly	Arg	Met	Ala	Glu	Leu	Lys	Cys	Arg
				365					370					375
Thr	Pro	Pro	Met	Ser	Ser	Val	Lys	Trp	Leu	Leu	Pro	Asn	Gly	Thr
				380					385					390
Val	Leu	Ser	His	Ala	Ser	Arg	His	Pro	Arg	Ile	Ser	Val	Leu	Asn
				395					400					405
Asp	Gly	Thr	Leu	Asn	Phe	Ser	His	Val	Leu	Leu	Ser	Asp	Thr	Gly
				410					415					420
Val	Tyr	Thr	Cys	Met	Val	Thr	Asn	Val	Ala	Gly	Asn	Ser	Asn	Ala
				425					430					435
Ser	Ala	Tyr	Leu	Asn	Val	Ser	Thr	Ala	Glu	Leu	Asn	Thr	Ser	Asn
				440					445					450
Tyr	Ser	Phe	Phe	Thr	Thr	Val	Thr	Val	Glu	Thr	Thr	Glu	Ile	Ser
				455					460					465
Pro	Glu	Asp	Thr	Thr	Arg	Lys	Tyr	Lys	Pro	Val	Pro	Thr	Thr	Ser
				470					475					480
Thr	Gly	Tyr	Gln	Pro	Ala	Tyr	Thr	Thr	Ser	Thr	Thr	Val	Leu	Ile
				485					490					495
Gln	Thr	Thr	Arg	Val	Pro	Lys	Gln	Val	Ala	Val	Pro	Ala	Thr	Asp

500	505	510
Thr Thr Asp Lys Met Gln Thr Ser Leu Asp Glu Val Met Lys Thr		
515	520	525
Thr Lys Ile Ile Ile Gly Cys Phe Val Ala Val Thr Leu Leu Ala		
530	535	540
Ala Ala Met Leu Ile Val Phe Tyr Lys Leu Arg Lys Arg His Gln		
545	550	555
Gln Arg Ser Thr Val Thr Ala Ala Arg Thr Val Glu Ile Ile Gln		
560	565	570
Val Asp Glu Asp Ile Pro Ala Ala Thr Ser Ala Ala Ala Thr Ala		
575	580	585
Ala Pro Ser Gly Val Ser Gly Glu Gly Ala Val Val Leu Pro Thr		
590	595	600
Ile His Asp His Ile Asn Tyr Asn Thr Tyr Lys Pro Ala His Gly		
605	610	615
Ala His Trp Thr Glu Asn Ser Leu Gly Asn Ser Leu His Pro Thr		
620	625	630
Val Thr Thr Ile Ser Glu Pro Tyr Ile Ile Gln Thr His Thr Lys		
635	640	645
Asp Lys Val Gln Glu Thr Gln Ile		
650		

<210> 230  
 <211> 2846  
 <212> DNA  
 <213> Homo sapiens

<400> 230  
 cgctcgggca ccagccgcgcg caaggatgga gctgggttgc tggacgcagt 50  
 tggggctcac ttttcttcag ctcttctca tctcgtcctt gccaaagagag 100  
 tacacagtca ttaatgaagc ctgccctgga gcagagtgga atatcatgtg 150  
 tcgggagatgc tgtgaatatg atcagattga gtgcgtctgc cccggaaaga 200  
 gggaagtctg gggttatacc atcccttgct gcaggaaatga ggagaatgag 250  
 tgtgactcct gcctgatcca cccaggttgt accatctttg aaaactgcaa 300  
 gagctgcgca aatggctcat gggggggtac cttggatgac ttctatgtga 350  
 aggggttcta ctgtgcagag tgccgagcag gctggtacgg aggagactgc 400  
 atgcgatgtg gccaggttct gcgagcccca aagggtcaga ttttgttgga 450  
 aagctatccc ctaaatgctc actgtgaatg gaccattcat gctaaacctg 500  
 ggtttgtcat ccaactaaga tttgtcatgt tgagtctgga gtttgactac 550  
 atgtgccagt atgactatgt tgaggttcgt gatggagaca accgcgatgg 600  
 ccagatcacc aagcgtgtct gtggcaacga gcggccagct cctatccaga 650

gcataggatc ctcaactccac gtccctcttcc actccgatgg ctccaagaat 700  
 tttagcggtt tccatgccat ttatgaggag atcacagcat gtccctcacc 750  
 cccttgtttc catgacggca cgtgcgtcct tgacaaggct ggatcttaca 800  
 agtgtgcctg cttggcaggc tatactgggc agcgctgtga aaatctcctt 850  
 gaagaaagaa aatgctcaga ccctgggggc ccagtcaatg ggtaccagaa 900  
 aataacaggg ggccctgggc ttatcaacgg acgccatgct aaaattggca 950  
 ccgtggtgtc tttcttttgt aacaactcct atgttcttag tggcaatgag 1000  
 aaaagaactt gccagcagaa tggagagtgg tcagggaac agcccatctg 1050  
 cataaaagcc tgccgagaac caaagatttc agacctggtg agaaggagag 1100  
 ttcttcogat gcaggttcag tcaagggaga caccattaca ccagctatac 1150  
 tcagcgccct tcagcaagca gaaactgcag agtgccocta ccaagaagcc 1200  
 agcccttccc tttggagatc tgcccattgg ataccaacat ctgcataccc 1250  
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<210> 231  
 <211> 720  
 <212> PRT  
 <213> Homo sapiens

<400> 231  
 Met Glu Leu Gly Cys Trp Thr Gln Leu Gly Leu Thr Phe Leu Gln  
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 Leu Leu Leu Ile Ser Ser Leu Pro Arg Glu Tyr Thr Val Ile Asn  
 20 25 30  
 Glu Ala Cys Pro Gly Ala Glu Trp Asn Ile Met Cys Arg Glu Cys  
 35 40 45  
 Cys Glu Tyr Asp Gln Ile Glu Cys Val Cys Pro Gly Lys Arg Glu  
 50 55 60  
 Val Val Gly Tyr Thr Ile Pro Cys Cys Arg Asn Glu Glu Asn Glu  
 65 70 75  
 Cys Asp Ser Cys Leu Ile His Pro Gly Cys Thr Ile Phe Glu Asn  
 80 85 90  
 Cys Lys Ser Cys Arg Asn Gly Ser Trp Gly Gly Thr Leu Asp Asp  
 95 100 105  
 Phe Tyr Val Lys Gly Phe Tyr Cys Ala Glu Cys Arg Ala Gly Trp  
 110 115 120  
 Tyr Gly Gly Asp Cys Met Arg Cys Gly Gln Val Leu Arg Ala Pro  
 125 130 135  
 Lys Gly Gln Ile Leu Leu Glu Ser Tyr Pro Leu Asn Ala His Cys  
 140 145 150  
 Glu Trp Thr Ile His Ala Lys Pro Gly Phe Val Ile Gln Leu Arg  
 155 160 165

Phe Val Met Leu Ser Leu Glu Phe Asp Tyr Met Cys Gln Tyr Asp	170	175	180
Tyr Val Glu Val Arg Asp Gly Asp Asn Arg Asp Gly Gln Ile Ile	185	190	195
Lys Arg Val Cys Gly Asn Glu Arg Pro Ala Pro Ile Gln Ser Ile	200	205	210
Gly Ser Ser Leu His Val Leu Phe His Ser Asp Gly Ser Lys Asn	215	220	225
Phe Asp Gly Phe His Ala Ile Tyr Glu Glu Ile Thr Ala Cys Ser	230	235	240
Ser Ser Pro Cys Phe His Asp Gly Thr Cys Val Leu Asp Lys Ala	245	250	255
Gly Ser Tyr Lys Cys Ala Cys Leu Ala Gly Tyr Thr Gly Gln Arg	260	265	270
Cys Glu Asn Leu Leu Glu Glu Arg Asn Cys Ser Asp Pro Gly Gly	275	280	285
Pro Val Asn Gly Tyr Gln Lys Ile Thr Gly Gly Pro Gly Leu Ile	290	295	300
Asn Gly Arg His Ala Lys Ile Gly Thr Val Val Ser Phe Phe Cys	305	310	315
Asn Asn Ser Tyr Val Leu Ser Gly Asn Glu Lys Arg Thr Cys Gln	320	325	330
Gln Asn Gly Glu Trp Ser Gly Lys Gln Pro Ile Cys Ile Lys Ala	335	340	345
Cys Arg Glu Pro Lys Ile Ser Asp Leu Val Arg Arg Arg Val Leu	350	355	360
Pro Met Gln Val Gln Ser Arg Glu Thr Pro Leu His Gln Leu Tyr	365	370	375
Ser Ala Ala Phe Ser Lys Gln Lys Leu Gln Ser Ala Pro Thr Lys	380	385	390
Lys Pro Ala Leu Pro Phe Gly Asp Leu Pro Met Gly Tyr Gln His	395	400	405
Leu His Thr Gln Leu Gln Tyr Glu Cys Ile Ser Pro Phe Tyr Arg	410	415	420
Arg Leu Gly Ser Ser Arg Arg Thr Cys Leu Arg Thr Gly Lys Trp	425	430	435
Ser Gly Arg Ala Pro Ser Cys Ile Pro Ile Cys Gly Lys Ile Glu	440	445	450
Asn Ile Thr Ala Pro Lys Thr Gln Gly Leu Arg Trp Pro Trp Gln	455	460	465
Ala Ala Ile Tyr Arg Arg Thr Ser Gly Val His Asp Gly Ser Leu	470	475	480

His	Lys	Gly	Ala	Trp	Phe	Leu	Val	Cys	Ser	Gly	Ala	Leu	Val	Asn	485	490	495
Glu	Arg	Thr	Val	Val	Val	Ala	Ala	His	Cys	Val	Thr	Asp	Leu	Gly	500	505	510
Lys	Val	Thr	Met	Ile	Lys	Thr	Ala	Asp	Leu	Lys	Val	Val	Leu	Gly	515	520	525
Lys	Phe	Tyr	Arg	Asp	Asp	Asp	Arg	Asp	Glu	Lys	Thr	Ile	Gln	Ser	530	535	540
Leu	Gln	Ile	Ser	Ala	Ile	Ile	Leu	His	Pro	Asn	Tyr	Asp	Pro	Ile	545	550	555
Leu	Leu	Asp	Ala	Asp	Ile	Ala	Ile	Leu	Lys	Leu	Leu	Asp	Lys	Ala	560	565	570
Arg	Ile	Ser	Thr	Arg	Val	Gln	Pro	Ile	Cys	Leu	Ala	Ala	Ser	Arg	575	580	585
Asp	Leu	Ser	Thr	Ser	Phe	Gln	Glu	Ser	His	Ile	Thr	Val	Ala	Gly	590	595	600
Trp	Asn	Val	Leu	Ala	Asp	Val	Arg	Ser	Pro	Gly	Phe	Lys	Asn	Asp	605	610	615
Thr	Leu	Arg	Ser	Gly	Val	Val	Ser	Val	Val	Asp	Ser	Leu	Leu	Cys	620	625	630
Glu	Glu	Gln	His	Glu	Asp	His	Gly	Ile	Pro	Val	Ser	Val	Thr	Asp	635	640	645
Asn	Met	Phe	Cys	Ala	Ser	Trp	Glu	Pro	Thr	Ala	Pro	Ser	Asp	Ile	650	655	660
Cys	Thr	Ala	Glu	Thr	Gly	Gly	Ile	Ala	Ala	Val	Ser	Phe	Pro	Gly	665	670	675
Arg	Ala	Ser	Pro	Glu	Pro	Arg	Trp	His	Leu	Met	Gly	Leu	Val	Ser	680	685	690
Trp	Ser	Tyr	Asp	Lys	Thr	Cys	Ser	His	Arg	Leu	Ser	Thr	Ala	Phe	695	700	705
Thr	Lys	Val	Leu	Pro	Phe	Lys	Asp	Trp	Ile	Glu	Arg	Asn	Met	Lys	710	715	720

<210> 232

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 232

aggttcgtga tggagacaac cgcg 24

<210> 233

<211> 24

<212> DNA

<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 233  
tgtcaaggac gcactgccgt catg 24

<210> 234  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 234  
tggccagatc atcaagcgtg tctgtggcaa cgagcgccca gtcctatcc 50

<210> 235  
<211> 1964  
<212> DNA  
<213> Homo sapiens

<400> 235  
accagcgatt gtatcttcag ttgtcatcaa gttcgcaatc agattggaaa 50  
agctcaactt gaagctttct tgcctgcagt gaagcagaga gatagatatt 100  
attcacgtaa taataaacat gggcttcaac ctgactttcc acctttccta 150  
caaattcoga ttactgttgc tgttgacttt gtgcctgaca gtggttgggt 200  
gggccaccag taactacttc gtgggtgcca ttcaagagat tcctaaagca 250  
aaggagtcca tggttaattt ccataagacc ctcatcttgg ggaagggaaa 300  
aactctgact aatgaagcat ccacgaagaa ggtagaactt gacaactgtc 350  
cttctgtgtc tccttacctc agaggccaga gcaagctcat tttcaaacca 400  
gatctcactt tggaagaggt acaggcagaa aatcccaaag tgtccagagg 450  
cgggtatcgc cctcaggaat gtaaagcttt acagagggtc gccatcctcg 500  
ttccccaccg gaacagagag aaacacctga tgtacctgtc ggaacatctg 550  
catcccttcc tgcagaggca gcagctggat tatggcatct acgtcatcca 600  
ccaggctgaa ggtaaaaagt ttaatcgagc caaactcttg aatgtgggct 650  
atctagaagc cctcaagga gaaaattggg actgctttat attccacgat 700  
gtggacctgg taccgagaa tgactttaac ctttacaagt gtgaggagca 750  
tcccaagcat ctgggtggtg gcaggaacag cactgggtac aggttacgtt 800  
acagtgagata ttttgggggt gttactgcc taagcagaga gcagtttttc 850  
aagggtgaatg gattctctaa caactacttg ggtggggag gcgaagacga 900  
tgacctcaga ctcagggttg agctccaaag aatgaaaatt tccggcccc 950  
tgcctgaagt gggtaaatat acaatggtct tccacactag agacaaaggc 1000

aatgagggtga acgcagaacg gatgaagctc ttacaccaag tgtcacgagt 1050  
 ctggagaaca gatgggttga gtagttgttc ttataaatta gtatctgtgg 1100  
 aacacaaatcc tttatatatc aacatcacag tggatttctg gtttggtgca 1150  
 tgaccttgga tcttttgggtg atgtttggaa gaactgattc tttgtttgca 1200  
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 acagctcatt gttgagctga atttttcctt tttgtatttt cttagcagag 1300  
 ctctcgtgtga tgtagagtat aaaacagttg taacaagaca gctttcttag 1350  
 tcattttgat catgagggtt aaatattgta atatggatac ttgaaggact 1400  
 ttatatataaa ggatgactca aaggataaaa tgaacgctat ttgaggactc 1450  
 tggttgaagg agatttattt aaatttgaag taatatatta tgggataaaa 1500  
 ggccacagga aataagactg ctgaatgtct gagagaacca gaggttgtct 1550  
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 cagtgatgcc caccagagaa tacattctct attagttttt aaagagtttt 1850  
 tgtaaaatga ttttgtacaa gtaggatatg aattagcagt ttacaagttt 1900  
 acatattaac taataataaa tatgtctatc aaatacctct gtagtaaaat 1950  
 gtgaaaaagc aaaa 1964

<210> 236

<211> 344

<212> PRT

<213> Homo sapiens

<220>

<221> Signal peptide

<222> 1-27

<223> Signal peptide

<220>

<221> N-glycosylation sites

<222> 4-7, 220-223, 335-338

<223> N-glycosylation sites

<220>

<221> Xylose isomerase proteins

<222> 191-201

<223> Xylose isomerase proteins

<400> 236

Met	Gly	Phe	Asn	Leu	Thr	Phe	His	Leu	Ser	Tyr	Lys	Phe	Arg	Leu
1					5					10				15





Pro Leu Tyr Ile Asn Ile Thr Val Asp Phe Trp Phe Gly Ala  
335 340

<210> 237  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 237  
cettacctca gaggccagag caagc 25

<210> 238  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 238  
gagcttcacg cgttctgcgt tcacc 25

<210> 239  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 239  
caggaatgta aagctttaca gagggctgcc atcctcggtc cccacc 46

<210> 240  
<211> 2567  
<212> DNA  
<213> Homo sapiens

<400> 240  
cgtgggcccgg ggtcgcgcag cgggctgtgg gcgcgcccgg aggagcgacc 50  
gcgcagattc toagctcca gctgcattcc ctccgcgtcc gccccacgct 100  
tctcccgcgc cgggcccgcg aatggcccag gcagtgtggt cgcgcctcgg 150  
ccgcacatcc tggttgctt gctcctgcc ctgggccccg gcagggtgtg 200  
ccgcaggcct gtatgaactc aatctcacca ccgatagccc tgccaccacg 250  
ggagcgggtg tgacctctc ggccagcctg gtggccaagg acaacggcag 300  
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cgtgtggtgc gccacgtgcc cggggaattc ccggtctctg tctgggtcac 450  
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 accacaagat ccagggtgtg ccctccagaa tccagccggc tgtctttgct 1150  
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 aaaaaaatac aaaaagttag ccgggcgtgg tgggtgggtg ctgtagtccc 2450  
 agctactcgg gaggctgagg caggagaatg gtgcgaaccc gggaggcgga 2500  
 gcttgcatg agcccagatg gcgccactgc actccagcct gagtgcagaga 2550  
 gcgagactct gtctcca 2567

<210> 241  
 <211> 423  
 <212> PRT  
 <213> Homo sapiens

<400> 241  
 Met Ala Gln Ala Val Trp Ser Arg Leu Gly Arg Ile Leu Trp Leu  
 1 5 10 15  
 Ala Cys Leu Leu Pro Trp Ala Pro Ala Gly Val Ala Ala Gly Leu  
 20 25 30  
 Tyr Glu Leu Asn Leu Thr Thr Asp Ser Pro Ala Thr Thr Gly Ala  
 35 40 45  
 Val Val Thr Ile Ser Ala Ser Leu Val Ala Lys Asp Asn Gly Ser  
 50 55 60  
 Leu Ala Leu Pro Ala Asp Ala His Leu Tyr Arg Phe His Trp Ile  
 65 70 75  
 His Thr Pro Leu Val Leu Thr Gly Lys Met Glu Lys Gly Leu Ser  
 80 85 90  
 Ser Thr Ile Arg Val Val Gly His Val Pro Gly Glu Phe Pro Val  
 95 100 105  
 Ser Val Trp Val Thr Ala Ala Asp Cys Trp Met Cys Gln Pro Val  
 110 115 120  
 Ala Arg Gly Phe Val Val Leu Pro Ile Thr Glu Phe Leu Val Gly  
 125 130 135  
 Asp Leu Val Val Thr Gln Asn Thr Ser Leu Pro Trp Pro Ser Ser  
 140 145 150  
 Tyr Leu Thr Lys Thr Val Leu Lys Val Ser Phe Leu Leu His Asp  
 155 160 165  
 Pro Ser Asn Phe Leu Lys Thr Ala Leu Phe Leu Tyr Ser Trp Asp  
 170 175 180  
 Phe Gly Asp Gly Thr Gln Met Val Thr Glu Asp Ser Val Val Tyr  
 185 190 195

Tyr Asn Tyr Ser Ile Ile Gly Thr Phe Thr Val Lys Leu Lys Val  
 200 205  
 Val Ala Glu Trp Glu Glu Val Glu Pro Asp Ala Thr Arg Ala Val  
 215 220 225  
 Lys Gln Lys Thr Gly Asp Phe Ser Ala Ser Leu Lys Leu Gln Glu  
 230 235 240  
 Thr Leu Arg Gly Ile Gln Val Leu Gly Pro Thr Leu Ile Gln Thr  
 245 250 255  
 Phe Gln Lys Met Thr Val Thr Leu Asn Phe Leu Gly Ser Pro Pro  
 260 265 270  
 Leu Thr Val Cys Trp Arg Leu Lys Pro Glu Cys Leu Pro Leu Glu  
 275 280 285  
 Glu Gly Glu Cys His Pro Val Ser Val Ala Ser Thr Ala Tyr Asn  
 290 295 300  
 Leu Thr His Thr Phe Arg Asp Pro Gly Asp Tyr Cys Phe Ser Ile  
 305 310 315  
 Arg Ala Glu Asn Ile Ile Ser Lys Thr His Gln Tyr His Lys Ile  
 320 325 330  
 Gln Val Trp Pro Ser Arg Ile Gln Pro Ala Val Phe Ala Phe Pro  
 335 340 345  
 Cys Ala Thr Leu Ile Thr Val Met Leu Ala Phe Ile Met Tyr Met  
 350 355 360  
 Thr Leu Arg Asn Ala Thr Gln Gln Lys Asp Met Val Glu Asn Pro  
 365 370 375  
 Glu Pro Pro Ser Gly Val Arg Cys Cys Cys Gln Met Cys Cys Gly  
 380 385 390  
 Pro Phe Leu Leu Glu Thr Pro Ser Glu Tyr Leu Glu Ile Val Arg  
 395 400 405  
 Glu Asn His Gly Leu Leu Pro Pro Leu Tyr Lys Ser Val Lys Thr  
 410 415 420  
 Tyr Thr Val

<210> 242  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 242  
 catttcctta cctggaccc agctcc 26  
 <210> 243  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 243  
gaaaggccca cagcacatct ggcag 25

<210> 244  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 244  
ccacgacccg agcaacttcc tcaagaccga ctgtttcttc tacagc 46

<210> 245  
<211> 485  
<212> DNA  
<213> Homo sapiens

<400> 245  
gctcaagacc cagcagtggg acagccagac agacggcacg atggcactga 50  
gctcccagat ctgggccgct tgctctctgc tcctctctct cctcgccagc 100  
ctgaccagtg gctctgtttt ccacacacag acgggacaac ttgcagagct 150  
gcaaccccgag gacagagctg gagccagggc cagctggatg ccatgtttcc 200  
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ggctgtctgc atcgatcaaa gtgtgggatg tgctgcaaga cgtagaacct 300  
acctgccctg cccccgtccc ctcccttctt tatttattcc tgetgccccca 350  
gaacataggt ctggaataa aatgggtggt tcttttgttt tccaaaaaaa 400  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 450  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 485

<210> 246  
<211> 84  
<212> PRT  
<213> Homo sapiens

<400> 246  
Met Ala Leu Ser Ser Gln Ile Trp Ala Ala Cys Leu Leu Leu Leu  
1 5 10 15  
Leu Leu Leu Ala Ser Leu Thr Ser Gly Ser Val Phe Pro Gln Gln  
20 25 30  
Thr Gly Gln Leu Ala Glu Leu Gln Pro Gln Asp Arg Ala Gly Ala  
35 40 45  
Arg Ala Ser Trp Met Pro Met Phe Gln Arg Arg Arg Arg Asp  
50 55 60  
Thr His Phe Pro Ile Cys Ile Phe Cys Cys Gly Cys Cys His Arg  
65 70 75

Ser Lys Cys Gly Met Cys Cys Lys Thr  
80

<210> 247  
<211> 2359  
<212> DNA  
<213> Homo sapiens

<400> 247  
ctgtcaggaa ggaccatctg aaggctgcaa tttgttotta gggaggcagg 50  
tgctggcctg gcctggatct tccaccatgt tectgttgct gccttttgat 100  
agcctgattg tcaaccttct gggcatctcc ctgactgtcc tcttcacct 150  
ccttctcgtt ttcacatag tgccagccat ttttgagtc tcttttgga 200  
tcgcgaaact ctacatgaaa agtctgttaa aaatctttgc gtgggctacc 250  
ttgagaaatg agcaggaggc caaggagaag aaccaccagc tttaacaagcc 300  
ctacaccaac ggaatcattg caaaggatcc cacttcaact gaagaagaga 350  
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gagttcgagc tctctgacat tttctacttt tgccgaaaag gaatggagac 450  
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cggctcacgg tctctgtggg gttaggagtg ctgattcgtt actgctttct 600  
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atgagtaaac atgttcactt aatgtgttac cggatctgcg tgcgagcgt 750  
gacagccatc atcacctacc atgacaggga aaacagacca agaaatggtg 800  
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gctcggaagt gaaggatgc cacctggttg ctaagagact gactgaacat 1000  
gtgcaagata aaagcaagct gcctatcctc atcttcccag aaggaacctg 1050  
catcaataat acatcggtga tgatgttcaa aaagggaagt ttgaaaattg 1100  
gagccacagt ttacctgtt gctatcaagt atgacctca atttgcgat 1150  
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gccattgcca ggcaggagg actgtggac ctgctgtggg atgggggcct 1350

gaagagggag aaggtgaagg acacgttcaa ggaggagcag cagaagctgt 1400  
 acagcaagat gatcgtgggg aaccacaagg acaggagccg ctccctgagcc 1450  
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<210> 248

<211> 456

<212> PRT

<213> Homo sapiens

<400> 248

Met	Phe	Leu	Leu	Leu	Pro	Phe	Asp	Ser	Leu	Ile	Val	Asn	Leu	Leu
1				5					10					15
Gly	Ile	Ser	Leu	Thr	Val	Leu	Phe	Thr	Leu	Leu	Leu	Val	Phe	Ile
				20					25					30
Ile	Val	Pro	Ala	Ile	Phe	Gly	Val	Ser	Phe	Gly	Ile	Arg	Lys	Leu
				35					40					45
Tyr	Met	Lys	Ser	Leu	Leu	Lys	Ile	Phe	Ala	Trp	Ala	Thr	Leu	Arg
				50					55					60
Met	Glu	Arg	Gly	Ala	Lys	Glu	Lys	Asn	His	Gln	Leu	Tyr	Lys	Pro
				65					70					75



Tyr Thr Asn Gly	Ile 80	Ile Ala Lys Asp	Pro Thr Ser Leu Glu Glu	85	90
Glu Ile Lys Glu	Ile 95	Arg Arg Ser Gly	Ser Ser Lys Ala Leu Asp	100	105
Asn Thr Pro Glu	Phe 110	Glu Leu Ser Asp	Ile Phe Tyr Phe Cys Arg	115	120
Lys Gly Met Glu	Thr 125	Ile Met Asp Asp	Glu Val Thr Lys Arg Phe	130	135
Ser Ala Glu Glu	Leu 140	Glu Ser Trp Asn	Leu Leu Ser Arg Thr Asn	145	150
Tyr Asn Phe Gln	Tyr 155	Ile Ser Leu Arg	Leu Thr Val Leu Trp Gly	160	165
Leu Gly Val Leu	Ile 170	Arg Tyr Cys Phe	Leu Leu Pro Leu Arg Ile	175	180
Ala Leu Ala Phe	Thr 185	Gly Ile Ser Leu	Leu Val Val Gly Thr Thr	190	195
Val Val Gly Tyr	Leu 200	Pro Asn Gly Arg	Phe Lys Glu Phe Met Ser	205	210
Lys His Val His	Leu 215	Met Cys Tyr Arg	Ile Cys Val Arg Ala Leu	220	225
Thr Ala Ile Ile	Thr 230	Tyr His Asp Arg	Glu Asn Arg Pro Arg Asn	235	240
Gly Gly Ile Cys	Val 245	Ala Asn His Thr	Ser Pro Ile Asp Val Ile	250	255
Ile Leu Ala Ser	Asp 260	Gly Tyr Tyr Ala	Met Val Gly Gln Val His	265	270
Gly Gly Leu Met	Gly 275	Val Ile Gln Arg	Ala Met Val Lys Ala Cys	280	285
Pro His Val Trp	Phe 290	Glu Arg Ser Glu	Val Lys Asp Arg His Leu	295	300
Val Ala Lys Arg	Leu 305	Thr Glu His Val	Gln Asp Lys Ser Lys Leu	310	315
Pro Ile Leu Ile	Phe 320	Pro Glu Gly Thr	Cys Ile Asn Asn Thr Ser	325	330
Val Met Met Phe	Lys 335	Lys Gly Ser Phe	Glu Ile Gly Ala Thr Val	340	345
Tyr Pro Val Ala	Ile 350	Lys Tyr Asp Pro	Gln Phe Gly Asp Ala Phe	355	360
Trp Asn Ser Ser	Lys 365	Tyr Gly Met Val	Thr Tyr Leu Leu Arg Met	370	375
Met Thr Ser Trp	Ala 380	Ile Val Cys Ser	Val Trp Tyr Leu Pro Pro	385	390

Met Thr Arg Glu Ala Asp Glu Asp Ala Val Gln Phe Ala Asn Arg  
395 400 405

Val Lys Ser Ala Ile Ala Arg Gln Gly Gly Leu Val Asp Leu Leu  
410 415 420

Trp Asp Gly Gly Leu Lys Arg Glu Lys Val Lys Asp Thr Phe Lys  
425 430 435

Glu Glu Gln Gln Lys Leu Tyr Ser Lys Met Ile Val Gly Asn His  
440 445 450

Lys Asp Arg Ser Arg Ser  
455

<210> 249  
<211> 1103  
<212> DNA  
<213> Homo sapiens

<400> 249  
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gcctcggcga gcctcggcct ccacacctgg caggcccagg ctgttccac 150  
catcctgccc ctgggcctgg ctccagacac ctttgacgat acctatgttg 200  
gttgtgcaga ggagatggag gagaaggcag cccccctgct aaaggaggaa 250  
atggcccacc atgccctgct gcgggaatcc tgggaggcag cccaggagac 300  
ctgggaggag aagcgctcag ggcttacott gcccccctggc ttcaagccc 350  
agaatggaat agccattatg gtctacacca actcatcgaa cacctgtgac 400  
tgggagtga atcaggccgt gcggacgggc ggaggctccc gggagctcta 450  
catgaggcac ttcccttca aggcctgca tttctactg atccggggccc 500  
tgcagctgct gcgaggcagt gggggctgca gcaggggacc tggggagggtg 550  
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cccacagatt tggggagaag aggcggggct gtgtgtctgc gccaggggtg 700  
cagctagggt cacaatctga gggggcctcc tctctgcccc cctggaagac 750  
tctgctcttg gccctggag agttccagct ctccaggggtt gggccctgaa 800  
agtccaacat gtgccactta ggagccctgg gaacgggtga ccttcatatg 850  
acgaagaggc acctccagca gccttgagaa gcaagaacat ggttccggac 900  
ccagccctag cagccttctc cccaaccagg atgttgccct ggggaggcca 950  
cagcagggtc gagggaaact tgctatgtga tggggacttc ctgggacaag 1000  
caaggaaagt actgaggcag ccacttgatt gaacgggtgtt gcaatgtgga 1050

gacatggagt ttatttgagg tagctacgtg attaaatggt attgcagtgt 1100  
gga 1103

<210> 250  
<211> 240  
<212> PRT  
<213> Homo sapiens

<400> 250  
Met Ala Leu Ala Ala Leu Met Ile Ala Leu Gly Ser Leu Gly Leu  
1 5 10  
His Thr Trp Gln Ala Gln Ala Val Pro Thr Ile Leu Pro Leu Gly  
20 25 30  
Leu Ala Pro Asp Thr Phe Asp Asp Thr Tyr Val Gly Cys Ala Glu  
35 40 45  
Glu Met Glu Glu Lys Ala Ala Pro Leu Leu Lys Glu Glu Met Ala  
50 55 60  
His His Ala Leu Leu Arg Glu Ser Trp Glu Ala Ala Gln Glu Thr  
65 70 75  
Trp Glu Asp Lys Arg Arg Gly Leu Thr Leu Pro Pro Gly Phe Lys  
80 85 90  
Ala Gln Asn Gly Ile Ala Ile Met Val Tyr Thr Asn Ser Ser Asn  
95 100 105  
Thr Leu Tyr Trp Glu Leu Asn Gln Ala Val Arg Thr Gly Gly Gly  
110 115 120  
Ser Arg Glu Leu Tyr Met Arg His Phe Pro Phe Lys Ala Leu His  
125 130 135  
Phe Tyr Leu Ile Arg Ala Leu Gln Leu Leu Arg Gly Ser Gly Gly  
140 145 150  
Cys Ser Arg Gly Pro Gly Glu Val Val Phe Arg Gly Val Gly Ser  
155 160 165  
Leu Arg Phe Glu Pro Lys Arg Leu Gly Asp Ser Val Arg Leu Gly  
170 175 180  
Gln Phe Ala Ser Ser Ser Leu Asp Lys Ala Val Ala His Arg Phe  
185 190 195  
Gly Glu Lys Arg Arg Gly Cys Val Ser Ala Pro Gly Val Gln Leu  
200 205 210  
Gly Ser Gln Ser Glu Gly Ala Ser Ser Leu Pro Pro Trp Lys Thr  
215 220 225  
Leu Leu Leu Ala Pro Gly Glu Phe Gln Leu Ser Gly Val Gly Pro  
230 235 240

<210> 251  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 251

ccaccacctg gaggtcctgc agttgggcag gaactccatc cggcagattg 50

<210> 252

<211> 1076

<212> DNA

<213> Homo sapiens

<400> 252

gtggttccat ttcagtggct gacttcaga gagcaatatg gctggttccc 50

caacatgcct caccctcacc tatatccttt ggcagctcac agggtcagca 100

gcctctggac cgtgaaaga gctggctggg tccgttggtg gggccgtgac 150

tttccccctg aagtccaaag taaagcaagt tgactctatt gtctggacct 200

tcaacacaaa cctcttggc accatacagc cagaaggggg cactatcata 250

gtgacccaaa atcgtaatat ggagagagta gacttcccag atggaggcta 300

ctccctgaag ctacgcaaac tgaagaagaa tgactcaggg atctactatg 350

tggggatata cagctcatca ctccagcagc cctccaccga ggagtacgtg 400

ctgcatgtct acgagcacct gtcaaagcct aaagtcacca tgggtctgca 450

gagcaataag aatggcacct gtgtgaccaa totgacatgc tgcattggaac 500

atggggaaga ggatgtgatt tatacctgga aggccctggg gcaagcagcc 550

aatgagtgcc ataatgggtc catcctcccc atctcctgga gatggggaga 600

aagtgatatg accttcattc gcgttgccag gaaccctgtc agcagaaaact 650

tctcaagccc catccttgcc aggaagctct gtgaaggtgc tgctgatgac 700

ccagattcct ccattggtcct cctgtgtctc ctgttggtgc cctcctgtct 750

cagtctcttt gtactggggc tatttctttg gtttctgaag agagagagac 800

aagaagagta cattgaagag aagaagagag tggacatttg tcgggaaact 850

cctaacatat gcccccattc tggagagaac acagagtacg acacaatccc 900

tcaactaat agaacaatcc taaaggaaga tccagcaaat acggtttact 950

ccactgtgga aataccgaaa aagatggaaa atccccactc actgtctcacg 1000

atgccagaca caccaaggct atttgcttat gagaatgta tctagacagc 1050

agtgcactcc cctaagtctc tgctca 1076

<210> 253

<211> 335

<212> PRT

<213> Homo sapiens

<400> 253

Met Ala Gly Ser Pro Thr Cys Leu Thr Leu Ile Tyr Ile Leu Trp

1	5	10	15
Gln Leu Thr Gly Ser	Ala Ala Ser Gly	Pro Val Lys Glu Leu Val	20 25 30
Gly Ser Val Gly Gly	Ala Val Thr Phe	Pro Leu Lys Ser Lys Val	35 40 45
Lys Gln Val Asp Ser	Ile Val Trp Thr	Phe Asn Thr Thr Pro Leu	50 55 60
Val Thr Ile Gln Pro	Glu Gly Gly Thr	Ile Ile Val Thr Gln Asn	65 70 75
Arg Asn Arg Glu Arg	Val Asp Phe Pro	Asp Gly Gly Tyr Ser Leu	80 85 90
Lys Leu Ser Lys Leu	Lys Lys Asn Asp	Ser Gly Ile Tyr Tyr Val	95 100 105
Gly Ile Tyr Ser Ser	Ser Leu Gln Gln	Pro Ser Thr Gln Glu Tyr	110 115 120
Val Leu His Val Tyr	Glu His Leu Ser	Lys Pro Lys Val Thr Met	125 130 135
Gly Leu Gln Ser Asn	Lys Asn Gly Thr	Cys Val Thr Asn Leu Thr	140 145 150
Cys Cys Met Glu His	Gly Glu Glu Asp	Val Ile Tyr Thr Trp Lys	155 160 165
Ala Leu Gly Gln Ala	Ala Asn Glu Ser	His Asn Gly Ser Ile Leu	170 175 180
Pro Ile Ser Trp Arg	Trp Gly Glu Ser	Asp Met Thr Phe Ile Cys	185 190 195
Val Ala Arg Asn Pro	Val Ser Arg Asn	Phe Ser Ser Pro Ile Leu	200 205 210
Ala Arg Lys Leu Cys	Glu Gly Ala Ala	Asp Asp Pro Asp Ser Ser	215 220 225
Met Val Leu Leu Cys	Leu Leu Leu Val	Pro Leu Leu Leu Ser Leu	230 235 240
Phe Val Leu Gly Leu	Phe Leu Trp Phe	Leu Lys Arg Glu Arg Gln	245 250 255
Glu Glu Tyr Ile Glu	Glu Lys Lys Arg	Val Asp Ile Cys Arg Glu	260 265 270
Thr Pro Asn Ile Cys	Pro His Ser Gly	Glu Asn Thr Glu Tyr Asp	275 280 285
Thr Ile Pro His Thr	Asn Arg Thr Ile	Leu Lys Glu Asp Pro Ala	290 295 300
Asn Thr Val Tyr Ser	Thr Val Glu Ile	Pro Lys Lys Met Glu Asn	305 310 315
Pro His Ser Leu Leu	Thr Met Pro Asp	Thr Pro Arg Leu Phe Ala	

Tyr Glu Asn Val Ile  
335

<210> 254  
<211> 1053  
<212> DNA  
<213> Homo sapiens

<400> 254  
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gggtcagcag cctctggacc cgtgaaagag ctggtcggtt ccggttggtg 100  
ggccgtgact ttccccctga agtccaaagt aaagcaagtt gactctattg 150  
tctggacott caacacaacc cctcttgta ccatagacc agaagggggc 200  
actatcatag tgaccocaaa tcgtaaatag gagagagtag acttcccaga 250  
tggagggtac tcctgaagc tcagcaaact gaagaagaat gactcaggga 300  
tctactatgt ggggatatac agctcatcac tccagcagcc ctccaccag 350  
gagtacgtgc tgcatgtcta cgagcacctg tcaaagccta aagtcacat 400  
gggtctgcag agcaataaga atggcacctg tgtgaccaat ctgacatgct 450  
gcatggaaca tggggaagag gatgtgattt atacctggaa ggccctgggg 500  
caagcagcca atgagtccca taatgggtcc atcctcccca tctctggag 550  
atggggagaa agtgatatga ccttcactct cggtgccagg aaccctgtca 600  
gcagaaactt ctcaagcccc atccttgcca ggaagctctg tgaaggtgct 650  
gctgatgacc cagattcctc catggctcct ctgtgtctcc tgttggtgcc 700  
cctcctgctc agtctctttg tactggggct atttcttttg tttctgaaga 750  
gagagagaca agaagagtag attgaagaga agaagagagt ggacatttgt 800  
cgggaaactc ctaacatatg cccccattct ggagagaaca cagagtacga 850  
cacaatccct cacactaata gaacaatcct aaaggaagat ccagcaaata 900  
cggtttaact cactgtggaa ataccgaaaa agatggaaaa tccccactca 950  
ctgctcacga tgccagacac accaaggcta ttgtcctatg agaattgtat 1000  
ctagacagca gtgcactccc ctaagtctct gctcaaaaaa aaaaaaaaaa 1050  
aaa 1053

<210> 255  
<211> 860  
<212> DNA  
<213> Homo sapiens

<400> 255  
gaaagacgtg gtctctgacag acagacaatc ctattcccta ccaaaatgaa 50

gatgctgctg ctgctgtgtt tgggactgac cctagctctgt gtccatgcag 100  
aagaagctag ttctacggga aggaacttta atgtagaaaa gattaatggg 150  
gaatggcata ctattatcct ggccctctgac aaaagagaaa agatagaaga 200  
acatggcaac tttagacttt ttctggagca aatccatgto ttggagaatt 250  
ccttagttct taaagtccat actgtaagag atgaagagtgt ctccgaatta 300  
tctatgggtg ctgacaaaac agaaaaggct ggtgaatatt ctgtgacgta 350  
tgatggattc aatacattta ctatacctaa gacagactat gataaacttc 400  
ttatggctca cctcattaac gaaaaggatg gggaaacctt ccagctgatg 450  
gggctctatg gccgagaacc agatttgagt tcagacatca aggaaagggt 500  
tgcacaacta tgtgaggagc atggaatcct tagagaaaat atcattgacc 550  
tatccaatgc caatcgctgc ctccaggccc gagaatgaag aatggcctga 600  
gcctccagtg ttgagtggac acttctcacc aggactccac catcatccct 650  
tcctatccat acagcatccc cagtataaat tctgtgatct gcattccatc 700  
ctgtctcact gagaagtcca attccagtct atcaacatgt tacctaggat 750  
acctcatcaa gaatcaaaga cttcttttaa tttctctttg atacaccctt 800  
gacaattttt catgaaatta ttctctcttc tgttcaataa atgattaccc 850  
ttgcacttaa 860

<210> 256  
<211> 180  
<212> PRT  
<213> Homo sapiens

<400> 256

Met	Lys	Met	Leu	Leu	Leu	Cys	Leu	Gly	Leu	Thr	Leu	Val	Cys	
1				5				10					15	
Val	His	Ala	Glu	Glu	Ala	Ser	Ser	Thr	Gly	Arg	Asn	Phe	Asn	Val
			20						25				30	
Glu	Lys	Ile	Asn	Gly	Glu	Trp	His	Thr	Ile	Ile	Leu	Ala	Ser	Asp
			35						40				45	
Lys	Arg	Glu	Lys	Ile	Glu	Glu	His	Gly	Asn	Phe	Arg	Leu	Phe	Leu
			50						55				60	
Glu	Gln	Ile	His	Val	Leu	Glu	Asn	Ser	Leu	Val	Leu	Lys	Val	His
			65						70				75	
Thr	Val	Arg	Asp	Glu	Glu	Cys	Ser	Glu	Leu	Ser	Met	Val	Ala	Asp
			80						85				90	
Lys	Thr	Glu	Lys	Ala	Gly	Glu	Tyr	Ser	Val	Thr	Tyr	Asp	Gly	Phe
			95						100				105	
Asn	Thr	Phe	Thr	Ile	Pro	Lys	Thr	Asp	Tyr	Asp	Asn	Phe	Leu	Met
			110						115				120	

Ala His Leu Ile Asn Glu Lys Asp Gly Glu Thr Phe Gln Leu Met  
125 130  
Gly Leu Tyr Gly Arg Glu Pro Asp Leu Ser Ser Asp Ile Lys Glu  
140 145  
Arg Phe Ala Gln Leu Cys Glu Glu His Gly Ile Leu Arg Glu Asn  
155 160  
Ile Ile Asp Leu Ser Asn Ala Asn Arg Cys Leu Gln Ala Arg Glu  
170 175 180

<210> 257  
<211> 766  
<212> DNA  
<213> Homo sapiens

<400> 257  
ggctcgagcg tttctgagcc aggggtgacc atgacctgct gcgaaggatg 50  
gacatctcgc aatggattca gctgtgtggt tctactgtgt ttaggagtag 100  
ttctcaatgc gatacctcta attgtcagct tagttgagga agaccaattt 150  
ttctaaaacc ccattctctt ctttgagtgg tggttcccag gaattatagg 200  
agcagggtctg atggccattc cagcaacaac aatgtccttg acagcaagaa 250  
aaagagcgtg ctgcaacaac agaactggaa tgtttctttc atcatttttc 300  
agtgtgatca cagtcattgg tgcctgtgat tgcattgtga tatocatcca 350  
ggctctctta aaaggtcctc tcatgtgtaa ttctccaagc aacagtaatg 400  
ccaattgtga attttcattg aaaaacatca gtgacattca tccagaatcc 450  
ttcaacttgc agtggttttt caatgactct tgtgcacctc ctactgggtt 500  
caataaaacc accagtaacg acaccatggc gagtggctgg agagcatcta 550  
gtttccaatt cgattctgaa gaaaacaaac ataggcttat ccacttctca 600  
gtatttttag gtctattgct tgttggaatt ctggaggtcc tgtttgggct 650  
cagtcagata gtcacgtggt tcttggctgt tctgtgtgga gtctctaagc 700  
gaagaagta c aattgtgtag tttaatggga ataaaaatga agtatcagta 750  
gtttgaaaaa aaaaaa 766

<210> 258  
<211> 229  
<212> PRT  
<213> Homo sapiens

<400> 258  
Met Thr Cys Cys Glu Gly Trp Thr Ser Cys Asn Gly Phe Ser Leu  
1 5 10 15  
Leu Val Leu Leu Leu Leu Gly Val Val Leu Asn Ala Ile Pro Leu  
20 25 30  
Ile Val Ser Leu Val Glu Glu Asp Gln Phe Ser Gln Asn Pro Ile



	35	40	45
Ser Cys Phe Glu Trp Trp Phe Pro Gly Ile Ile Gly Ala Gly Leu	50	55	60
Met Ala Ile Pro Ala Thr Thr Met Ser Leu Thr Ala Arg Lys Arg	65	70	75
Ala Cys Cys Asn Asn Arg Thr Gly Met Phe Leu Ser Ser Phe Phe	80	85	90
Ser Val Ile Thr Val Ile Gly Ala Leu Tyr Cys Met Leu Ile Ser	95	100	105
Ile Gln Ala Leu Leu Lys Gly Pro Leu Met Cys Asn Ser Pro Ser	110	115	120
Asn Ser Asn Ala Asn Cys Glu Phe Ser Leu Lys Asn Ile Ser Asp	125	130	135
Ile His Pro Glu Ser Phe Asn Leu Gln Trp Phe Phe Asn Asp Ser	140	145	150
Cys Ala Pro Pro Thr Gly Phe Asn Lys Pro Thr Ser Asn Asp Thr	155	160	165
Met Ala Ser Gly Trp Arg Ala Ser Ser Phe His Phe Asp Ser Glu	170	175	180
Glu Asn Lys His Arg Leu Ile His Phe Ser Val Phe Leu Gly Leu	185	190	195
Leu Leu Val Gly Ile Leu Glu Val Leu Phe Gly Leu Ser Gln Ile	200	205	210
Val Ile Gly Phe Leu Gly Cys Leu Cys Gly Val Ser Lys Arg Arg	215	220	225
Ser Gln Ile Val			

<210> 259  
 <211> 434  
 <212> DNA  
 <213> Homo sapiens

<400> 259  
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 caccatgagg ctgtcagtggt gtctcctgat ggtctcgtgt gccctttgct 100  
 gctaccaggc ccatgctctt gtctgccag ctgttgcttc tgagatcaca 150  
 gtctctttat tcttaagtga cgtcgcggtt aacctccaag ttgcaaaact 200  
 taatccacct ccagaagctc ttgcagccaa gttggaagtg aagcactgca 250  
 ccgatcagat atcttttaag aaacgactct cattgaaaaa gtcctgggtg 300  
 aaatagttaa aaaatgtggt gtgtgacatg taaaaatgct caacctgttt 350  
 tccaaagtct ttcaacgaca cctgatctt cactaaaaat tgtaaaggtt 400

tcaacacggt gctttaataa atcacttgcc ctgc 434

<210> 260

<211> 83

<212> PRT

<213> Homo sapiens

<400> 260

Met	Arg	Leu	Ser	Val	Cys	Leu	Leu	Met	Val	Ser	Leu	Ala	Leu	Cys
1				5					10					15
Cys	Tyr	Gln	Ala	His	Ala	Leu	Val	Cys	Pro	Ala	Val	Ala	Ser	Glu
			20					25						30
Ile	Thr	Val	Phe	Leu	Phe	Leu	Ser	Asp	Ala	Ala	Val	Asn	Leu	Gln
			35					40						45
Val	Ala	Lys	Leu	Asn	Pro	Pro	Pro	Glu	Ala	Leu	Ala	Ala	Lys	Leu
			50					55						60
Glu	Val	Lys	His	Cys	Thr	Asp	Gln	Ile	Ser	Phe	Lys	Lys	Arg	Leu
			65					70						75
Ser	Leu	Lys	Lys	Ser	Trp	Trp	Lys							
			80											

<210> 261

<211> 636

<212> DNA

<213> Homo sapiens

<400> 261

atccgttctc tgcgctgcca gtcagggtga gccctcgcca aggtgacctc 50  
gcaggacact ggtgaaggag cagtgaggaa cctgcagagt cacacagttg 100  
ctgaccaatt gagctgtgag cctggagcag atccgtgggc tgcagacccc 150  
cgccccagtg cctctcccc tgcagccctg ccctcgaaac tgtgacatgg 200  
agagagtgac cctggccctt ctctacttg caggcctgac tgccttgaa 250  
gccaatgacc catttgccaa taaagacgat cccttctact atgactggaa 300  
aaacctgcag ctgagcggac tgatctgcgg agggctcctg gccattgctg 350  
ggatcgcggc agttctgagt ggcaaatgca aatacaagag cagccagaag 400  
cagcacagtc ctgtacctga gaagccatc ccaactcatc ctccaggctc 450  
tgccactact tgetgagcac aggactggcc tccagggatg gcctgaagcc 500  
taacactggc cccagcacc tctcccctg ggaggcctta tctcaagga 550  
aggacttctc tcaagggca ggctgttagg cccctttctg atcaggaggc 600  
ttctttatga attaaactcg cccaccacc cctca 636

<210> 262

<211> 89

<212> PRT

<213> Homo sapiens

<400> 262

Met Glu Arg Val Thr Leu Ala Leu Leu Leu Leu Ala Gly Leu Thr  
1 5 10 15

Ala Leu Glu Ala Asn Asp Pro Phe Ala Asn Lys Asp Asp Pro Phe  
20 25 30

Tyr Tyr Asp Trp Lys Asn Leu Gln Leu Ser Gly Leu Ile Cys Gly  
35 40 45

Gly Leu Leu Ala Ile Ala Gly Ile Ala Ala Val Leu Ser Gly Lys  
50 55 60

Cys Lys Tyr Lys Ser Ser Gln Lys Gln His Ser Pro Val Pro Glu  
65 70 75

Lys Ala Ile Pro Leu Ile Thr Pro Gly Ser Ala Thr Thr Cys  
80 85

<210> 263

<211> 1676

<212> DNA

<213> Homo sapiens

<400> 263

ggagaagagg ttgtgtggga caagctgctc ccgacagaag gatgtcgctg 50  
ctgagcctgc cctggctggg cctcagaccg gtggcaatgt ccccatggct 100  
actcctgctg ctggttgttg gctcctggct actcgcccg atcctggctt 150  
ggacctatgc cttctataac aactgccgcc ggctccagtg ttcccacag 200  
cccccaaaa ggaactgggt ttggggtoac ctgggacctg tcaactctac 250  
agaggagggc ttgaaggact cgaccagat gtcggccacc tattcccagg 300  
gctttacggg atggctgggt cccatcatcc ccttcacgtt ttatgccac 350  
cctgacacca tcoggtctat caccaatgcc tcagctgcca ttgcacccaa 400  
ggataatctc ttcacaggt tctgaagcc ctggctggga gaagggatac 450  
tgctgagtgg cgggtgacaag tggagccgcc accgtcggt gctgacgcc 500  
gccttcatt tcaacatct gaagtctat ataacgatct tcaacaagag 550  
tgcaaacatc atgcttgaca agtggcagca cctggcctca gagggcagca 600  
gtcgtctgga catgtttgag cacatcagcc tcatgaacct ggacagtcta 650  
cagaaatgca tcttcagctt tgacagccat tgtcaggaga ggcccagtga 700  
atatattgcc accatcttgg agctcagtc ccttgtagag aaaagaagcc 750  
agcatatcct ccagcacatg gactttctgt attacctct ccatgacggg 800  
cggcgcttcc acagggcctg ccgcctgggt catgacttca cagacgtgt 850  
catccgggag cggcgtcgca cctcccccac tcagggtatt gatgattttt 900  
tcaaaagaaa agccaagtcc aagactttgg atttcattga tgtgcttctg 950

ctgagcaagg atgaagatgg gaaggcattg tcagatgagg atataagagc 1000  
 agaggctgac accttcattgt ttggaggcca tgacaccacg gccagtggcc 1050  
 tctctgggt cctgtacaac cttgcgaggc acccagaata ccaggagcgc 1100  
 tgccgacagg aggtgcaaga gcttctgaag gaccgcgac ctaagagat 1150  
 tgaatgggac gacctggccc agctgccctt cctgaccatg tgcgtgaagg 1200  
 agagcctgag gttacatccc ccagctccct tcatctccc agtctgaccc 1250  
 caggacattg ttctcccaga tggccgagtc atcccctaa gcatctacgt 1300  
 cctcatcgat attatagggg tccatcacia cccaactgtg tggccggatc 1350  
 ctgagggtcta cgacccttc cgtcttgacc cagagaacag caaggggagg 1400  
 tcacctctgg cttttattcc tttctccgca gggcccagga actgcatcgg 1450  
 gcaggcggtc gccatggcgg agatgaaagt ggtcctggcg ttgatgctgc 1500  
 tgcacttccg gttctgccca gaccacactg agccccgcag gaagctggaa 1550  
 ttgatcatgc gcgccgagg cgggccttgg ctgcgggtgg agccccgaa 1600  
 tgtaggcttg cagtgacttt ctgaccatc cacctgtttt ttgcagatt 1650  
 gtcataaata aaacggtgct gtcaaa 1676

<210> 264  
 <211> 524  
 <212> PRT  
 <213> Homo sapiens

<400> 264  
 Met Ser Leu Leu Ser Leu Pro Trp Leu Gly Leu Arg Pro Val Ala  
 1 5 10 15  
 Met Ser Pro Trp Leu Leu Leu Leu Val Val Gly Ser Trp Leu  
 20 25 30  
 Leu Ala Arg Ile Leu Ala Trp Thr Tyr Ala Phe Tyr Asn Asn Cys  
 35 40 45  
 Arg Arg Leu Gln Cys Phe Pro Gln Pro Pro Lys Arg Asn Trp Phe  
 50 55 60  
 Trp Gly His Leu Gly Leu Ile Thr Pro Thr Glu Glu Gly Leu Lys  
 65 70 75  
 Asp Ser Thr Gln Met Ser Ala Thr Tyr Ser Gln Gly Phe Thr Val  
 80 85 90  
 Trp Leu Gly Pro Ile Ile Pro Phe Ile Val Leu Cys His Pro Asp  
 95 100 105  
 Thr Ile Arg Ser Ile Thr Asn Ala Ser Ala Ala Ile Ala Pro Lys  
 110 115 120  
 Asp Asn Leu Phe Ile Arg Phe Leu Lys Pro Trp Leu Gly Glu Gly  
 125 130 135

Ile	Leu	Leu	Ser	Gly	Gly	Asp	Lys	Trp	Ser	Arg	His	Arg	Arg	Met
				140					145					150
Leu	Thr	Pro	Ala	Phe	His	Phe	Asn	Ile	Leu	Lys	Ser	Tyr	Ile	Thr
				155					160					165
Ile	Phe	Asn	Lys	Ser	Ala	Asn	Ile	Met	Leu	Asp	Lys	Trp	Gln	His
				170					175					180
Leu	Ala	Ser	Glu	Gly	Ser	Ser	Arg	Leu	Asp	Met	Phe	Glu	His	Ile
				185					190					195
Ser	Leu	Met	Thr	Leu	Asp	Ser	Leu	Gln	Lys	Cys	Ile	Phe	Ser	Phe
				200					205					210
Asp	Ser	His	Cys	Gln	Glu	Arg	Pro	Ser	Glu	Tyr	Ile	Ala	Thr	Ile
				215					220					225
Leu	Glu	Leu	Ser	Ala	Leu	Val	Glu	Lys	Arg	Ser	Gln	His	Ile	Leu
				230					235					240
Gln	His	Met	Asp	Phe	Leu	Tyr	Tyr	Leu	Ser	His	Asp	Gly	Arg	Arg
				245					250					255
Phe	His	Arg	Ala	Cys	Arg	Leu	Val	His	Asp	Phe	Thr	Asp	Ala	Val
				260					265					270
Ile	Arg	Glu	Arg	Arg	Arg	Thr	Leu	Pro	Thr	Gln	Gly	Ile	Asp	Asp
				275					280					285
Phe	Phe	Lys	Asp	Lys	Ala	Lys	Ser	Lys	Thr	Leu	Asp	Phe	Ile	Asp
				290					295					300
Val	Leu	Leu	Leu	Ser	Lys	Asp	Glu	Asp	Gly	Lys	Ala	Leu	Ser	Asp
				305					310					315
Glu	Asp	Ile	Arg	Ala	Glu	Ala	Asp	Thr	Phe	Met	Phe	Gly	Gly	His
				320					325					330
Asp	Thr	Thr	Ala	Ser	Gly	Leu	Ser	Trp	Val	Leu	Tyr	Asn	Leu	Ala
				335					340					345
Arg	His	Pro	Glu	Tyr	Gln	Glu	Arg	Cys	Arg	Gln	Glu	Val	Gln	Glu
				350					355					360
Leu	Leu	Lys	Asp	Arg	Asp	Pro	Lys	Glu	Ile	Glu	Trp	Asp	Asp	Leu
				365					370					375
Ala	Gln	Leu	Pro	Phe	Leu	Thr	Met	Cys	Val	Lys	Glu	Ser	Leu	Arg
				380					385					390
Leu	His	Pro	Pro	Ala	Pro	Phe	Ile	Ser	Arg	Cys	Cys	Thr	Gln	Asp
				395					400					405
Ile	Val	Leu	Pro	Asp	Gly	Arg	Val	Ile	Pro	Lys	Gly	Ile	Thr	Cys
				410					415					420
Leu	Ile	Asp	Ile	Ile	Gly	Val	His	His	Asn	Pro	Thr	Val	Trp	Pro
				425					430					435
Asp	Pro	Glu	Val	Tyr	Asp	Pro	Phe	Arg	Phe	Asp	Pro	Glu	Asn	Ser
				440					445					450

Lys Gly Arg Ser Pro Leu Ala Phe Ile Pro Phe Ser Ala Gly Pro  
 455 460 465  
 Arg Asn Cys Ile Gly Gln Ala Phe Ala Met Ala Glu Met Lys Val  
 470 475 480  
 Val Leu Ala Leu Met Leu Leu His Phe Arg Phe Leu Pro Asp His  
 485 490 495  
 Thr Glu Pro Arg Arg Lys Leu Glu Leu Ile Met Arg Ala Glu Gly  
 500 505 510  
 Gly Leu Trp Leu Arg Val Glu Pro Leu Asn Val Gly Leu Gln  
 515 520

<210> 265  
 <211> 584  
 <212> DNA  
 <213> Homo sapiens

<400> 265  
 caacagaagc caagaaggaa gccgtctatc ttgtggcgat catgtataag 50  
 ctggcctcct gctgtttgct ttccacagga ttcttaaact ctctcttctc 100  
 tcttctctct ctgactcca gggaaatata ctttcaactc tcagcacctc 150  
 atgaagacgc gcgcttaact ccggaggagc tagaaagagc ttcccttcta 200  
 cagatatgtc cagagatgct ggggtcagaa agagggggata ttctcaggaa 250  
 agcagactca agtaccacaa tttttaaccc aaggagaaat ttgagaaagt 300  
 ttcaggattt ctctggacaa gatcctaaca ttttactgag tcatcttttg 350  
 gccagaatct ggaaaccata caagaaacgt gagactcctg attgcttctg 400  
 gaaatactgt gtctgaagtg aaataagcat ctgttagtca gtcagaaac 450  
 acccatctta gaatatgaaa aataacacaa tgcttgattt gaaaacagtg 500  
 tggagaaaaa ctaggcaaac tacaccctgt tcattgttac ctggaaaata 550  
 aatcctctat gttttgcaca aaaaaaaaaa aaaa 584

<210> 266  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 266  
 Met Tyr Lys Leu Ala Ser Cys Cys Leu Leu Phe Thr Gly Phe Leu  
 1 5 10 15  
 Asn Pro Leu Leu Ser Leu Pro Leu Leu Asp Ser Arg Glu Ile Ser  
 20 25 30  
 Phe Gln Leu Ser Ala Pro His Glu Asp Ala Arg Leu Thr Pro Glu  
 35 40 45  
 Glu Leu Glu Arg Ala Ser Leu Leu Gln Ile Leu Pro Glu Met Leu  
 50 55 60

Gly Ala Glu Arg Gly Asp Ile Leu Arg Lys Ala Asp Ser Ser Thr  
65 70  
Asn Ile Phe Asn Pro Arg Gly Asn Leu Arg Lys Phe Gln Asp Phe  
80 85 90  
Ser Gly Gln Asp Pro Asn Ile Leu Leu Ser His Leu Leu Ala Arg  
95 100 105  
Ile Trp Lys Pro Tyr Lys Lys Arg Glu Thr Pro Asp Cys Phe Trp  
110 115 120  
Lys Tyr Cys Val

<210> 267  
<211> 654  
<212> DNA  
<213> Homo sapiens

<400> 267  
gaacattttt agttccaag gaatgtacat cagccccaag gaagctaggg 50  
cacctctggg atgggggtgc tgggtttaaaa caaacgccag tcatcctata 100  
taaggacotg acagccacca ggcaccacct ccgccaggaa ctgcaggccc 150  
acctgtctgc aaccagctg aggccatgcc ctcccaggg accgtctgca 200  
gcctctgct cctcggcatg ctctgggtgg acttgccat ggaggtctcc 250  
agcttctoga gccotgaaca ccagagagtc cagcagagaa aggagtcgaa 300  
gaagccacca gccaaagctgc agccccgagc tctagcaggc tggctccgcc 350  
cggaagatgg aggtcaagca gaaggggcag aggatgaact ggaagtcgg 400  
ttcaacgccc cctttgatgt tggaaatcaag ctgtcagggg ttcagtacca 450  
gcagcacagc caggccctgg ggaagtttct tcaggacatc ctctgggaa 500  
aggccaaaaga ggccccagcc gacaagtgat cgcccaaac cttactcac 550  
ctctctctaa gtttagaagc gctcatctgg ctttctgctt gcttctgagc 600  
caactccac gactgttgta caagctcagg aggcgaataa atgttcaaac 650  
tgta 654

<210> 268  
<211> 117  
<212> PRT  
<213> Homo sapiens

<400> 268  
Met Pro Ser Pro Gly Thr Val Cys Ser Leu Leu Leu Gly Met  
1 5 10 15  
Leu Trp Leu Asp Leu Ala Met Ala Gly Ser Ser Phe Leu Ser Pro  
20 25 30  
Glu His Gln Arg Val Gln Gln Arg Lys Glu Ser Lys Lys Pro Pro  
35 40 45





cagagcatcc cctgcctgca gttgtggcaa gaacgcccag ctcagaatga 1100  
 acacacccca ccaagagcct ccttgttcat aaccacaggt taccctacaa 1150  
 accactgtcc ccacacaacc ctggggatgt tttaaaacac acacctctaa 1200  
 cgcatactct acagtcactg ttgtcttgcc tgaggggtga atttttttta 1250  
 atgaaagtgc aatgaaaatc actgatttaa atcctacgga cacagagctg 1300  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1332

<210> 270  
 <211> 142  
 <212> PRT  
 <213> Homo sapiens

<400> 270  
 Met Asn Thr Trp Leu Leu Phe Leu Pro Leu Phe Pro Val Gln Val  
 1 5 10 15  
 Gln Thr Leu Ile Val Val Ile Ile Gly Met Leu Val Leu Leu Leu  
 20 25 30  
 Asp Phe Leu Gly Leu Val His Leu Gly Gln Leu Leu Ile Phe His  
 35 40 45  
 Ile Tyr Leu Ser Met Ser Pro Thr Leu Ser Pro Arg Ser Pro Gln  
 50 55 60  
 Gly Trp Val Val Arg Ala Ala His Leu Thr Pro Leu Leu Glu Tyr  
 65 70 75  
 Val Pro Asn Pro Glu Pro Pro Thr Pro Gly Ala Arg Val Phe Val  
 80 85 90  
 Pro Arg Val Arg Met Cys Ser Gly Ser Ala Ser Pro Arg Ser Glu  
 95 100 105  
 Ile Met Asp Lys Lys Gly Lys Ser Gln Glu Glu Ile Lys Ser Met  
 110 115 120  
 Arg Thr Gln Gln Ala Gln Gln Glu Ala Glu Leu Thr Pro Arg Pro  
 125 130 135  
 Ala Gly Val Val Pro Gly Ala  
 140

<210> 271  
 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

<400> 271  
 ggagtgacga tggcatcctt cggttcttcc agacaagctg caagacgctg 50  
 accatggcca agatggagct ctgaaggcc ttctctggcc agcgacact 100  
 cctatctgcc atcctcagca tgctatcact cagcttctcc acaacatccc 150  
 tgctcagcaa ctactggttt gtgggcacac agaagtgcc caagcccctg 200  
 tgcgagaaag gtctggcagc caagtgcctt gacatgccag tgctccctgga 250

tggagatacc aacacatcca cccaggaggt ggtacaatac aactgggaga 300  
 ctggggatga cgggtttctc ttccggagct tccggagtgg catgtggcta 350  
 tctgtgagg aaactgtgga agaaccaggg gagaggtgcc gaagtttcat 400  
 tgaacttaca ccaccagcca agagaggtga gaaaggacta ctggaatttg 450  
 ccacgttgca aggcccatgt caccctactc tccgatttgg aggggaagcgg 500  
 ttgatggaga aggtctccct cccctccctc cccttggggc tttgtggcaa 550  
 aaatcctatg gttatccctg ggaacgcaga tcacctacat cggacttcaa 600  
 ttcatcagct tctctctgct actaacagac ttgctactca ctgggaaccc 650  
 tgcctgtggg ctcaaactga gcgcctttgc tgtgtttcc tctgtcctgt 700  
 cagggtctct ggggatggtg gccacatga tgtattcaca agtcttccaa 750  
 gcgactgtca acttgggtcc agaagactgg agaccacatg tttggaatta 800  
 tggctggggc ttctacatgg cctggctctc cttcacctgc tgcattggcg 850  
 cggtctgcac cacttcaac acgtacacca gtagtgtgct ggagtccaag 900  
 tgcaagcata gtaagagctt caaggaaaac ccgaactgcc taccacatca 950  
 ccacagtggt ttccctcggc ggtgtgcaag tgcagcccc accgtggggtc 1000  
 ctttgaccag ctaccaccag tatcataatc agcccatcca ctctgtctct 1050  
 gaggagtgct acttctactc cgagctgcgg aacaagggat ttcaaaggag 1100  
 ggccagccag gagctgaaag aagcagttag gtcattgtga gaggaagagc 1150  
 agtgtagga gttaagcggg tttggggagt aggttgagc cctaccttac 1200  
 acgtctgctg attatcaaca tgtgcttaag ccaacatccg tctcttgagc 1250  
 atggttttta gaggtacga ataaggctat gaataagggt tatctttaag 1300  
 tcctaaggga ttctgggtg ccaactgctct ctttctctct acagctccat 1350  
 cttgtttcac ccacccacaca tctcacacat ccagaattcc cttctttact 1400  
 gatagtttct gtgccagggt ctgggctaaa ccatggagat aaaaagaaga 1450  
 gtaaaataca cttcccgacc ttaaggatct gaaa 1484

<210> 272  
 <211> 285  
 <212> PRT  
 <213> Homo sapiens

<400> 272  
 Met Ala Lys Met Glu Leu Ser Lys Ala Phe Ser Gly Gln Arg Thr  
 1 5 10 15  
 Leu Leu Ser Ala Ile Leu Ser Met Leu Ser Leu Ser Phe Ser Thr  
 20 25 30  
 Thr Ser Leu Leu Ser Asn Tyr Trp Phe Val Gly Thr Gln Lys Val

35										40										45									
Pro	Lys	Pro	Leu	Cys	Glu	Lys	Gly	Leu	Ala	Ala	Lys	Cys	Phe	Asp	Pro	Lys	Pro	Leu	Cys	Glu	Lys	Gly	Leu	Ala	Lys	Cys	Phe	Asp	
				50					55					60															
Met	Pro	Val	Ser	Leu	Asp	Gly	Asp	Thr	Asn	Thr	Ser	Thr	Gln	Glu															
				65					70					75															
Val	Val	Gln	Tyr	Asn	Trp	Glu	Thr	Gly	Asp	Asp	Arg	Phe	Ser	Phe															
				80					85					90															
Arg	Ser	Phe	Arg	Ser	Gly	Met	Trp	Leu	Ser	Cys	Glu	Glu	Thr	Val															
				95					100					105															
Glu	Glu	Pro	Gly	Glu	Arg	Cys	Arg	Ser	Phe	Ile	Glu	Leu	Thr	Pro															
				110					115					120															
Pro	Ala	Lys	Arg	Gly	Glu	Lys	Gly	Leu	Leu	Glu	Phe	Ala	Thr	Leu															
				125					130					135															
Gln	Gly	Pro	Cys	His	Pro	Thr	Leu	Arg	Phe	Gly	Gly	Lys	Arg	Leu															
				140					145					150															
Met	Glu	Lys	Ala	Ser	Leu	Pro	Ser	Pro	Pro	Leu	Gly	Leu	Cys	Gly															
				155					160					165															
Lys	Asn	Pro	Met	Val	Ile	Pro	Gly	Asn	Ala	Asp	His	Leu	His	Arg															
				170					175					180															
Thr	Ser	Ile	His	Gln	Leu	Pro	Pro	Ala	Thr	Asn	Arg	Leu	Ala	Thr															
				185					190					195															
His	Trp	Glu	Pro	Cys	Leu	Trp	Ala	Gln	Thr	Glu	Arg	Leu	Cys	Cys															
				200					205					210															
Cys	Phe	Leu	Cys	Pro	Val	Arg	Ser	Pro	Gly	Asp	Gly	Gly	Pro	His															
				215					220					225															
Asp	Val	Phe	Thr	Ser	Leu	Pro	Ser	Asp	Cys	Gln	Leu	Gly	Ser	Arg															
				230					235					240															
Arg	Leu	Glu	Thr	Thr	Cys	Leu	Glu	Leu	Trp	Leu	Gly	Leu	Leu	His															
				245					250					255															
Gly	Leu	Ala	Leu	Leu	His	Leu	Leu	His	Gly	Val	Gly	Cys	His	His															
				260					265					270															
Leu	Gln	His	Val	His	Gln	Asp	Gly	Ala	Gly	Val	Gln	Val	Gln	Ala															
				275					280					285															

<210> 273  
 <211> 1158  
 <212> DNA  
 <213> Homo sapiens

<400> 273  
 aactggaagg aaagaaagaa aggtcagctt tggcccagat gtggttaccc 50  
 cttgtgtctcc tgtctttatg tctttctcct cttcctattc tgcactctcc 100  
 ctcacttaag tctcaggcct gtcagcagct cctgtggaca ttgccatccc 150  
 ctctggttagc cttcagagca aacaggacaa cctatgttat ggatgtttcc 200

accaaccagg gtagtggcat ggagcaccgt aaccatctgt gcttctgtga 250  
 tctctatgac agagccactt ctccacctct gaaatgttcc ctgctctgaa 300  
 atctggcatg agatggcaca ggtgaccacg cagaagccac cagaatcttg 350  
 cctgccctat tctcctccc aagtctgttc tctattgtgc aaacctagca 400  
 caacaggctg gcgccaatgg cattacagag aaagcaatct gtgtggctag 450  
 tgggcagatt accatgcaag cccaggaga aatggaggag cttttagacc 500  
 acctccctgt cagccagtat taacatgtcc cttccccctt gccccgcctg 550  
 agattcagga cattcgcccc tgtgtgccac caaaccagga ctttccccctt 600  
 ggcttggcat ccttggctct ctccctgtac ccagcaagac gtctgttcca 650  
 gggcagtgtg gcatctttca agctccgtta ctatggcgat ggccatgatg 700  
 ttacaatccc acttgctga ataatacaagt gggaagggga agcagagggga 750  
 aatggggcca tgtgaatgca gctgctctgt tctccctacc ctgagggaaa 800  
 accaaaggga agcaacagga acttctgcaa ctggttttta tcggaagat 850  
 catcctgctt gcagatgctg ttgaaggggc acaagaaatg tagctggaga 900  
 agattgatga aagtgcaggt gtgtaaggaa atagaacagt ctgctgggag 950  
 tcagacctgg aattctgatt ccaaactctt tattactttg ggaagtcact 1000  
 cagcctcccc gtagccatct ccagggtgac ggaaccaggt gtattacctg 1050  
 ctggaaccaa ggaaactaac aatgtaggtt actagtgaat accccaatgg 1100  
 tttctcaat tatgcccatg ccacaaaac aataaaacaa aattctctaa 1150  
 cactgaaa 1158

<210> 274  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 274  
 Met Trp Leu Pro Leu Gly Leu Leu Ser Leu Cys Leu Ser Pro Leu  
 1 5 10 15  
 Pro Ile Leu Ser Ser Pro Ser Leu Lys Ser Gln Ala Cys Gln Gln  
 20 25 30  
 Leu Leu Trp Thr Leu Pro Ser Pro Leu Val Ala Phe Arg Ala Asn  
 35 40 45  
 Arg Thr Thr Tyr Val Met Asp Val Ser Thr Asn Gln Gly Ser Gly  
 50 55 60  
 Met Glu His Arg Asn His Leu Cys Phe Cys Asp Leu Tyr Asp Arg  
 65 70 75  
 Ala Thr Ser Pro Pro Leu Lys Cys Ser Leu Leu  
 80 85

<210> 275  
 <211> 2694  
 <212> DNA  
 <213> Homo sapiens

<400> 275  
 gtagcgcgtc ttgggtctcc cggtgccgc tgetgccgc gccgcctcgg 50  
 gtctgggagc caggagcgac gtcaccgcc ttggcaggcat caaagctttg 100  
 attagtttgt cttttggagg agcaatcgga ctgatgtttt tgatgcttg 150  
 atgtgccctt ccaatatata acaataactg gccctctttt gttctatttt 200  
 tttacatctt ttcacctatt ccatactgca tagcaagaag attagtggat 250  
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 ctatttataa gtgaaatttg tgatctccta tcaaccttcc atgtttttacc 1350  
 ctgttaaaat ggacatacat ggaaccacta ctgatgaggg acagtgtgat 1400  
 gtttgcatca tatatgccag aaaaccttcc tctgcttctt ccttttgact 1450



	35		40		45
Pro Ile Pro Tyr Cys Ile Ala Arg Arg Leu Val Asp Asp Thr Asp	50		55		60
Ala Met Ser Asn Ala Cys Lys Glu Leu Ala Ile Phe Leu Thr Thr	65		70		75
Gly Ile Val Val Ser Ala Phe Gly Leu Pro Ile Val Phe Ala Arg	80		85		90
Ala His Leu Ile Glu Trp Gly Ala Cys Ala Leu Val Leu Thr Gly	95		100		105
Asn Thr Val Ile Phe Ala Thr Ile Leu Gly Phe Phe Leu Val Phe	110		115		120
Gly Ser Asn Asp Phe Ser Trp Gln Gln Trp	125		130		

<210> 277  
 <211> 4104  
 <212> DNA  
 <213> Homo sapiens

<400> 277  
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 cgccgccgtc cgcacctccc caccgccgcg cgcgccgcgc ccgccgccgc 200  
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 cgagccgcgc agcaaagtga gacattgtgc gcctgccaga tccgccggcc 550  
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tcaccgagct gcacctcgag cacaacgact tggtaagggt gaacttcgcc 1400  
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<210> 278  
 <211> 522  
 <212> PRT  
 <213> Homo sapiens

<400> 278

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Arg	Pro	Ser	Gly	Val	Val	Leu	Cys	Leu	Gly	Ala	Cys	Phe	Gln	
			20						25				30	
Met	Leu	Pro	Ala	Ala	Pro	Ser	Gly	Cys	Pro	Gln	Leu	Cys	Arg	Cys
			35						40				45	
Glu	Gly	Arg	Leu	Leu	Tyr	Cys	Glu	Ala	Leu	Asn	Leu	Thr	Glu	Ala
			50						55				60	
Pro	His	Asn	Leu	Ser	Gly	Leu	Leu	Gly	Leu	Ser	Leu	Arg	Tyr	Asn
			65						70				75	
Ser	Leu	Ser	Glu	Leu	Arg	Ala	Gly	Gln	Phe	Thr	Gly	Leu	Met	Gln
			80						85				90	
Leu	Thr	Trp	Leu	Tyr	Leu	Asp	His	Asn	His	Ile	Cys	Ser	Val	Gln
			95						100				105	
Gly	Asp	Ala	Phe	Gln	Lys	Leu	Arg	Arg	Val	Lys	Glu	Leu	Thr	Leu
			110						115				120	
Ser	Ser	Asn	Gln	Ile	Thr	Gln	Leu	Pro	Asn	Thr	Thr	Phe	Arg	Pro
			125						130				135	
Met	Pro	Asn	Leu	Arg	Ser	Val	Asp	Leu	Ser	Tyr	Asn	Lys	Leu	Gln
			140						145				150	
Ala	Leu	Ala	Pro	Asp	Leu	Phe	His	Gly	Leu	Arg	Lys	Leu	Thr	Thr
			155						160				165	
Leu	His	Met	Arg	Ala	Asn	Ala	Ile	Gln	Phe	Val	Pro	Val	Arg	Ile
			170						175				180	
Phe	Gln	Asp	Cys	Arg	Ser	Leu	Lys	Phe	Leu	Asp	Ile	Gly	Tyr	Asn
			185						190				195	
Gln	Leu	Lys	Ser	Leu	Ala	Arg	Asn	Ser	Phe	Ala	Gly	Leu	Phe	Lys
			200						205				210	
Leu	Thr	Glu	Leu	His	Leu	Glu	His	Asn	Asp	Leu	Val	Lys	Val	Asn
			215						220				225	
Phe	Ala	His	Phe	Pro	Arg	Leu	Ile	Ser	Leu	His	Ser	Leu	Cys	Leu
			230						235				240	
Arg	Arg	Asn	Lys	Val	Ala	Ile	Val	Val	Ser	Ser	Leu	Asp	Trp	Val
			245						250				255	
Trp	Asn	Leu	Glu	Lys	Met	Asp	Leu	Ser	Gly	Asn	Glu	Ile	Glu	Tyr
			260						265				270	
Met	Glu	Pro	His	Val	Phe	Glu	Thr	Val	Pro	His	Leu	Gln	Ser	Leu
			275						280				285	

Gln	Leu	Asp	Ser	Asn	Arg	Leu	Thr	Tyr	Ile	Glu	Pro	Arg	Ile	Leu
				290					295					300
Asn	Ser	Trp	Lys	Ser	Leu	Thr	Ser	Ile	Thr	Leu	Ala	Gly	Asn	Leu
				305					310					315
Trp	Asp	Cys	Gly	Arg	Asn	Val	Cys	Ala	Leu	Ala	Ser	Trp	Leu	Ser
				320					325					330
Asn	Phe	Gln	Gly	Arg	Tyr	Asp	Gly	Asn	Leu	Gln	Cys	Ala	Ser	Pro
				335					340					345
Glu	Tyr	Ala	Gln	Gly	Glu	Asp	Val	Leu	Asp	Ala	Val	Tyr	Ala	Phe
				350					355					360
His	Leu	Cys	Glu	Asp	Gly	Ala	Glu	Pro	Thr	Ser	Gly	His	Leu	Leu
				365					370					375
Ser	Ala	Val	Thr	Asn	Arg	Ser	Asp	Leu	Gly	Pro	Pro	Ala	Ser	Ser
				380					385					390
Ala	Thr	Thr	Leu	Ala	Asp	Gly	Gly	Glu	Gly	Gln	His	Asp	Gly	Thr
				395					400					405
Phe	Glu	Pro	Ala	Thr	Val	Ala	Leu	Pro	Gly	Gly	Glu	His	Ala	Glu
				410					415					420
Asn	Ala	Val	Gln	Ile	His	Lys	Val	Val	Thr	Gly	Thr	Met	Ala	Leu
				425					430					435
Ile	Phe	Ser	Phe	Leu	Ile	Val	Val	Leu	Val	Leu	Tyr	Val	Ser	Trp
				440					445					450
Lys	Cys	Phe	Pro	Ala	Ser	Leu	Arg	Gln	Leu	Arg	Gln	Cys	Phe	Val
				455					460					465
Thr	Gln	Arg	Arg	Lys	Gln	Lys	Gln	Lys	Gln	Thr	Met	His	Gln	Met
				470					475					480
Ala	Ala	Met	Ser	Ala	Gln	Glu	Tyr	Tyr	Val	Asp	Tyr	Lys	Pro	Asn
				485					490					495
His	Ile	Glu	Gly	Ala	Leu	Val	Ile	Ile	Asn	Glu	Tyr	Gly	Ser	Cys
				500					505					510
Thr	Cys	His	Gln	Gln	Pro	Ala	Arg	Glu	Cys	Glu	Val			
				515					520					

&lt;210&gt; 279

&lt;211&gt; 46

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetic oligonucleotide probe

&lt;400&gt; 279

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&lt;210&gt; 280

&lt;211&gt; 709

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

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<210> 281  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 281  
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 Asp Val Ala Ala Asn Trp Ser Gln Asn Arg Thr Pro Cys Ala Gly  
 35 40 45  
 Gly Ala Val Glu Phe Pro Ala Asp Lys Met Val Ser Val Leu Val  
 50 55 60  
 Gln Glu Gly His Ala Val Ser Asp Met Leu Leu Pro Leu Asp Gly  
 65 70 75  
 Glu Leu Val Leu Ala Ser Gly Ala Gly Phe Gly Val Ser Asp Val  
 80 85 90  
 Gly Ser His Leu Asp Cys Gly Ala Gly Glu Pro Ala Val Phe Arg  
 95 100 105  
 Asp Ser Asp Arg Phe Ser Trp His Asp Pro His Leu Trp Arg Ser  
 110 115 120  
 Gly Asp Glu Ala Pro Gly Leu Phe Phe Val Asp Ala Glu Arg Val  
 125 130 135

Pro Cys Arg His Asp Asp Val Phe Phe Pro Pro Ser Ala Ser Phe  
140 145 150

Arg Val Gly Leu Gly Pro Gly Ala Ser Pro Val Arg Val Arg Ser  
155 160 165

Ile Ser Ala Leu Gly Arg Thr Phe Thr Arg Asp Glu Asp Leu Ala  
170 175 180

Val Phe Leu Ala Ser Arg Ala Gly Arg Leu Arg Phe His Gly Pro  
185 190 195

Gly Ala Leu Ser Val Gly Pro Glu Asp Cys Ala Asp Pro Ser Gly  
200 205 210

Cys Val Cys Gly Asn Ala Glu Ala Gln Pro Trp Ile Cys Ala Ala  
215 220 225

Leu Leu Gln Pro

<210> 282  
<211> 644  
<212> DNA  
<213> Homo sapiens

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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 644

<210> 283  
<211> 77  
<212> PRT  
<213> Homo sapiens

<400> 283  
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Cys Ser Ala Phe Trp Trp His Asn Lys Gly Leu Ala Leu Ile Phe  
35 40 45

Cys Ile Leu Gln Ser Leu Ala Leu Thr Trp Tyr Ser Leu Ser Phe  
50 55 60

Ile Pro Phe Ala Arg Asp Ala Val Lys Lys Cys Phe Ala Val Cys  
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Leu Ala

<210> 284

<211> 2623

<212> DNA

<213> Homo sapiens

<400> 284

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gagagaaaat tagggggaga aaggacagag agagcaacta ccatccatag 200  
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<210> 285

<211> 477  
 <212> PRT  
 <213> Homo sapiens

<400> 285

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				20					25					30	
Leu	Leu	Val	Ser	Phe	Asp	Gly	Phe	Arg	Trp	Asp	Tyr	Leu	Tyr	Lys	
				35					40					45	
Val	Pro	Thr	Pro	His	Phe	His	Tyr	Ile	Met	Lys	Tyr	Gly	Val	His	
				50					55					60	
Val	Lys	Gln	Val	Thr	Asn	Val	Phe	Ile	Thr	Lys	Thr	Tyr	Pro	Asn	
				65					70					75	
His	Tyr	Thr	Leu	Val	Thr	Gly	Leu	Phe	Ala	Glu	Asn	His	Gly	Ile	
				80					85					90	
Val	Ala	Asn	Asp	Met	Phe	Asp	Pro	Ile	Arg	Asn	Lys	Ser	Phe	Ser	
				95					100					105	
Leu	Asp	His	Met	Asn	Ile	Tyr	Asp	Ser	Lys	Phe	Trp	Glu	Glu	Ala	
				110					115					120	
Thr	Pro	Ile	Trp	Ile	Thr	Asn	Gln	Arg	Ala	Gly	His	Thr	Ser	Gly	
				125					130					135	
Ala	Ala	Met	Trp	Pro	Gly	Thr	Asp	Val	Lys	Ile	His	Lys	Arg	Phe	
				140					145					150	
Pro	Thr	His	Tyr	Met	Pro	Tyr	Asn	Glu	Ser	Val	Ser	Phe	Glu	Asp	
				155					160					165	
Arg	Val	Ala	Lys	Ile	Val	Glu	Trp	Phe	Thr	Ser	Lys	Glu	Pro	Ile	
				170					175					180	
Asn	Leu	Gly	Leu	Leu	Tyr	Trp	Glu	Asp	Pro	Asp	Asp	Met	Gly	His	
				185					190					195	
His	Leu	Gly	Pro	Asp	Ser	Pro	Leu	Met	Gly	Pro	Val	Ile	Ser	Asp	
				200					205					210	
Ile	Asp	Lys	Lys	Leu	Gly	Tyr	Leu	Ile	Gln	Met	Leu	Lys	Lys	Ala	
				215					220					225	
Lys	Leu	Trp	Asn	Thr	Leu	Asn	Leu	Ile	Ile	Thr	Ser	Asp	His	Gly	
				230					235					240	
Met	Thr	Gln	Cys	Ser	Glu	Glu	Arg	Leu	Ile	Glu	Leu	Asp	Gln	Tyr	
				245					250					255	
Leu	Asp	Lys	Asp	His	Tyr	Thr	Leu	Ile	Asp	Gln	Ser	Pro	Val	Ala	
				260					265					270	
Ala	Ile	Leu	Pro	Lys	Glu	Gly	Lys	Phe	Asp	Glu	Val	Tyr	Glu	Ala	
				275					280					285	
Leu	Thr	His	Ala	His	Pro	Asn	Leu	Thr	Val	Tyr	Lys	Lys	Glu	Asp	



290	295	300
Val Pro Glu Arg Trp His Tyr Lys Tyr	Asn Ser Arg Ile Gln Pro	
305	310	315
Ile Ile Ala Val Ala Asp Glu Gly Trp	His Ile Leu Gln Asn Lys	
320	325	330
Ser Asp Asp Phe Leu Leu Gly Asn His	Gly Tyr Asp Asn Ala Leu	
335	340	345
Ala Asp Met His Pro Ile Phe Leu Ala	His Gly Pro Ala Phe Arg	
350	355	360
Lys Asn Phe Ser Lys Glu Ala Met Asn	Ser Thr Asp Leu Tyr Pro	
365	370	375
Leu Leu Cys His Leu Leu Asn Ile Thr	Ala Met Pro His Asn Gly	
380	385	390
Ser Phe Trp Asn Val Gln Asp Leu Leu	Asn Ser Ala Met Pro Arg	
395	400	405
Val Val Pro Tyr Thr Gln Ser Thr Ile	Leu Leu Pro Gly Ser Val	
410	415	420
Lys Pro Ala Glu Tyr Asp Gln Glu Gly	Ser Tyr Pro Tyr Phe Ile	
425	430	435
Gly Val Ser Leu Gly Ser Ile Ile Val	Ile Val Phe Phe Val Ile	
440	445	450
Phe Ile Lys His Leu Ile His Ser Gln	Ile Pro Ala Leu Gln Asp	
455	460	465
Met His Ala Glu Ile Ala Gln Pro Leu	Leu Gln Ala	
470	475	

<210> 286

<211> 1337

<212> DNA

<213> Homo sapiens

<400> 286

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tcacacagcc aaaggaggca gagccagaac tcacaaccag atccagaggc 200

aacagggaca tggccacctg ggacgaaaag gcagtcaccc gcacgggccaa 250

ggtggctccc gctgagagga tgagcaagtt cttaaggcac ttacaggtcg 300

tgggagacga ctaccatgcc tggaacatca actacaagaa atgggagaat 350

gaagaggagg aggaggagga ggagcagcca ccacccacac cagtctcagg 400

cgagggaagg agagctgcag cccctgacgt tgcccctgcc cctggccccg 450

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<210> 287

<211> 255

<212> PRT

<213> Homo sapiens

<400> 287

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			20					25					30	
Val	Gly	Asp	Asp	Tyr	His	Ala	Trp	Asn	Ile	Asn	Tyr	Lys	Lys	Trp
			35					40					45	
Glu	Asn	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Gln	Pro	Pro	Pro	Thr	
			50					55					60	
Pro	Val	Ser	Gly	Glu	Glu	Gly	Arg	Ala	Ala	Pro	Asp	Val	Ala	
			65					70					75	
Pro	Ala	Pro	Gly	Pro	Ala	Pro	Arg	Ala	Pro	Leu	Asp	Phe	Arg	Gly
			80					85					90	
Met	Leu	Arg	Lys	Leu	Phe	Ser	Ser	His	Arg	Phe	Gln	Val	Ile	Ile
			95					100					105	
Ile	Cys	Leu	Val	Val	Leu	Asp	Ala	Leu	Leu	Val	Leu	Ala	Glu	Leu
			110					115					120	

Ile	Leu	Asp	Leu	Lys	Ile	Ile	Gln	Pro	Asp	Lys	Asn	Asn	Tyr	Ala
				125					130					135
Ala	Met	Val	Phe	His	Tyr	Met	Ser	Ile	Thr	Ile	Leu	Val	Phe	Phe
				140					145					150
Met	Met	Glu	Ile	Ile	Phe	Lys	Leu	Phe	Val	Phe	Arg	Leu	Ser	Ser
				155					160					165
Phe	Thr	Thr	Ser	Leu	Arg	Ser	Trp	Met	Pro	Val	Val	Val	Val	Val
				170					175					180
Ser	Phe	Ile	Leu	Asp	Ile	Val	Leu	Leu	Phe	Gln	Glu	His	Gln	Phe
				185					190					195
Glu	Ala	Leu	Gly	Leu	Leu	Ile	Leu	Leu	Arg	Leu	Trp	Arg	Val	Ala
				200					205					210
Arg	Ile	Ile	Asn	Gly	Ile	Ile	Ile	Ser	Val	Lys	Thr	Arg	Ser	Glu
				215					220					225
Arg	Gln	Leu	Leu	Arg	Leu	Lys	Gln	Met	Asn	Val	Gln	Leu	Ala	Ala
				230					235					240
Lys	Ile	Gln	His	Leu	Glu	Phe	Ser	Cys	Ser	Glu	Lys	Pro	Leu	Asp
				245					250					255

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<211> 3334

<212> DNA

<213> Homo sapiens

<400> 288

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cccagaccga gttccagtac tttgagtcga aggggctccc tgcgagctg 150

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ctaccgccag tggaagcaga aaattgtaca agctggagat aaggacctg 250

atgggcagct agactttgaa gaatttgtcc attatctcca agatcatgag 300

aagaagctga ggctggtgtt taagattttg gacaaaaaga atgatggacg 350

cattgacgcg caggagatca tgcagtcctc gcgggacttg ggagtcaaga 400

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 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 3334

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 <211> 469  
 <212> PRT  
 <213> Homo sapiens

<400> 289  
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 20 25 30  
 Lys Ser Ile Phe Lys Leu Ser Val Phe Ile Pro Ser Gln Glu Phe  
 35 40 45  
 Ser Thr Tyr Arg Gln Trp Lys Gln Lys Ile Val Gln Ala Gly Asp  
 50 55 60  
 Lys Asp Leu Asp Gly Gln Leu Asp Phe Glu Glu Phe Val His Tyr  
 65 70 75  
 Leu Gln Asp His Glu Lys Lys Leu Arg Leu Val Phe Lys Ile Leu  
 80 85 90

Asp	Lys	Lys	Asn	Asp	Gly	Arg	Ile	Asp	Ala	Gln	Glu	Ile	Met	Gln
				95					100					105
Ser	Leu	Arg	Asp	Leu	Gly	Val	Lys	Ile	Ser	Glu	Gln	Gln	Ala	Glu
				110					115					120
Lys	Ile	Leu	Lys	Ser	Met	Asp	Lys	Asn	Gly	Thr	Met	Thr	Ile	Asp
				125					130					135
Trp	Asn	Glu	Trp	Arg	Asp	Tyr	His	Leu	Leu	His	Pro	Val	Glu	Asn
				140					145					150
Ile	Pro	Glu	Ile	Ile	Leu	Tyr	Trp	Lys	His	Ser	Thr	Ile	Phe	Asp
				155					160					165
Val	Gly	Glu	Asn	Leu	Thr	Val	Pro	Asp	Glu	Phe	Thr	Val	Glu	Glu
				170					175					180
Arg	Gln	Thr	Gly	Met	Trp	Trp	Arg	His	Leu	Val	Ala	Gly	Gly	Gly
				185					190					195
Ala	Gly	Ala	Val	Ser	Arg	Thr	Cys	Thr	Ala	Pro	Leu	Asp	Arg	Leu
				200					205					210
Lys	Val	Leu	Met	Gln	Val	His	Ala	Ser	Arg	Ser	Asn	Asn	Met	Gly
				215					220					225
Ile	Val	Gly	Gly	Phe	Thr	Gln	Met	Ile	Arg	Glu	Gly	Gly	Ala	Arg
				230					235					240
Ser	Leu	Trp	Arg	Gly	Asn	Gly	Ile	Asn	Val	Leu	Lys	Ile	Ala	Pro
				245					250					255
Glu	Ser	Ala	Ile	Lys	Phe	Met	Ala	Tyr	Glu	Gln	Ile	Lys	Arg	Leu
				260					265					270
Val	Gly	Ser	Asp	Gln	Glu	Thr	Leu	Arg	Ile	His	Glu	Arg	Leu	Val
				275					280					285
Ala	Gly	Ser	Leu	Ala	Gly	Ala	Ile	Ala	Gln	Ser	Ser	Ile	Tyr	Pro
				290					295					300
Met	Glu	Val	Leu	Lys	Thr	Arg	Met	Ala	Leu	Arg	Lys	Thr	Gly	Gln
				305					310					315
Tyr	Ser	Gly	Met	Leu	Asp	Cys	Ala	Arg	Arg	Ile	Leu	Ala	Arg	Glu
				320					325					330
Gly	Val	Ala	Ala	Phe	Tyr	Lys	Gly	Tyr	Val	Pro	Asn	Met	Leu	Gly
				335					340					345
Ile	Ile	Pro	Tyr	Ala	Gly	Ile	Asp	Leu	Ala	Val	Tyr	Glu	Thr	Leu
				350					355					360
Lys	Asn	Ala	Trp	Leu	Gln	His	Tyr	Ala	Val	Asn	Ser	Ala	Asp	Pro
				365					370					375
Gly	Val	Phe	Val	Leu	Leu	Ala	Cys	Gly	Thr	Met	Ser	Ser	Thr	Cys
				380					385					390
Gly	Gln	Leu	Ala	Ser	Tyr	Pro	Leu	Ala	Leu	Val	Arg	Thr	Arg	Met
				395					400					405

Gln Ala Gln Ala Ser Ile Glu Gly Ala Pro Glu Val Thr Met Ser  
 410 415  
 Ser Leu Phe Lys His Ile Leu Arg Thr Glu Gly Ala Phe Gly Leu  
 425 430 435  
 Tyr Arg Gly Leu Ala Pro Asn Phe Met Lys Val Ile Pro Ala Val  
 440 445 450  
 Ser Ile Ser Tyr Val Val Tyr Glu Asn Leu Lys Ile Thr Leu Gly  
 455 460 465  
 Val Gln Ser Arg

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 <211> 1658  
 <212> DNA  
 <213> Homo sapiens

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 catgagttca aagaaggcaa agatgagctg tcggagcagg atgaaatgtt 350  
 cagaggccgg acagcagtggt ttgctgatca agtgatagtt ggcaatgcct 400  
 ctttgcggct gaaaaacgtg caactcacag atgctggcac ctacaaatgt 450  
 tatatcatca cttctaaagg caaggggaat gctaaccttg agtataaaaac 500  
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 agaccttgcg gtgtgaggct ccccgatggt tccccagcc cacagtggtc 600  
 tgggcatccc aagttgacca gggagccaac ttctcggaag tctccaatac 650  
 cagcttttag ctgaactctg agaattgtgac catgaagggt gtgtctgtgc 700  
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 aaaaaaaaa 1658

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 <211> 282  
 <212> PRT  
 <213> Homo sapiens

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 20 25 30  
 Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala  
 35 40 45  
 Gly Asn Ile Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro  
 50 55 60  
 Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly  
 65 70 75  
 Val Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu  
 80 85 90  
 Ser Glu Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala  
 95 100 105  
 Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val  
 110 115 120  
 Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser  
 125 130 135  
 Lys Gly Lys Gly Asn Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe  
 140 145 150  
 Ser Met Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu Thr



155	160	165
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170	175	180
Trp Ala Ser Gln Val Asp Gln Gly Ala	Asn Phe Ser Glu Val Ser	
185	190	195
Asn Thr Ser Phe Glu Leu Asn Ser Glu	Asn Val Thr Met Lys Val	
200	205	210
Val Ser Val Leu Tyr Asn Val Thr Ile	Asn Asn Thr Tyr Ser Cys	
215	220	225
Met Ile Glu Asn Asp Ile Ala Lys Ala	Thr Gly Asp Ile Lys Val	
230	235	240
Thr Glu Ser Glu Ile Lys Arg Arg Ser	His Leu Gln Leu Leu Asn	
245	250	255
Ser Lys Ala Ser Leu Cys Val Ser Ser	Phe Phe Ala Ile Ser Trp	
260	265	270
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 <211> 1484  
 <212> DNA  
 <213> Homo sapiens

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Phe Pro Leu Gln Leu Phe Cys Phe Leu Val Ala Ile Arg Val Pro  
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<210> 294

<211> 1164

<212> DNA

<213> Homo sapiens

<400> 294

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<210> 295

<211> 237

<212> PRT

<213> Homo sapiens

<400> 295

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20 30  
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35 40 45  
Thr Ser Cys Ile Ser Ser Ser Ala Ser Ser Ser Leu Glu Thr Pro  
50 55 60  
Val Arg Leu Tyr Gln Asn Met Phe Cys Ser Ala Glu Asn Cys Ser  
65 70 75  
Glu Glu Thr His Ile Thr Ala Phe Thr Val His Val Ser Ala Glu  
80 85 90  
Glu His Phe His Phe Val Ser Gln Cys Cys Gln Gly Lys Glu Cys  
95 100 105  
Ser Asn Thr Ser Asp Ala Leu Asp Pro Pro Leu Lys Asn Val Ser  
110 115 120  
Ser Asn Ala Glu Cys Pro Ala Cys Tyr Glu Ser Asn Gly Thr Ser  
125 130 135  
Cys Arg Gly Lys Pro Trp Lys Cys Tyr Glu Glu Glu Gln Cys Val  
140 145 150  
Phe Leu Val Ala Glu Leu Lys Asn Asp Ile Glu Ser Lys Ser Leu  
155 160 165  
Val Leu Lys Gly Cys Ser Asn Val Ser Asn Ala Thr Cys Gln Phe  
170 175 180  
Leu Ser Gly Glu Asn Lys Thr Leu Gly Gly Val Ile Phe Arg Lys  
185 190 195  
Phe Glu Cys Ala Asn Val Asn Ser Leu Thr Pro Thr Ser Ala Pro  
200 205 210  
Thr Thr Ser His Asn Val Gly Ser Lys Ala Ser Leu Tyr Leu Leu  
215 220 225  
Ala Leu Ala Ser Leu Leu Leu Arg Gly Leu Leu Pro  
230 235

<210> 296

<211> 1245

<212> DNA

<213> Homo sapiens

<400> 296

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<210> 297

<211> 341

<212> PRT

<213> Homo sapiens

<400> 297

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Thr Glu Met Gln Arg Val Ser Leu Arg Phe Gly Gly Pro Met Thr  
 35 40 45

Arg Ser Tyr Arg Ser Thr Ala Arg Thr Gly Leu Pro Arg Lys Thr  
 50 55 60

Arg Ile Ile Leu Glu Asp Glu Asn Asp Ala Met Ala Asp Ala Asp

65										70										75									
Arg	Leu	Ala	Gly	Pro	Ala	Ala	Ala	Glu	Leu	Leu	Ala	Ala	Thr	Val															
				80					85					90															
Ser	Thr	Gly	Phe	Ser	Arg	Ser	Ser	Ala	Ile	Asn	Glu	Glu	Asp	Gly															
				95					100					105															
Ser	Ser	Glu	Glu	Gly	Val	Val	Ile	Asn	Ala	Gly	Lys	Asp	Ser	Thr															
				110					115					120															
Ser	Arg	Glu	Leu	Pro	Ser	Ala	Thr	Pro	Asn	Thr	Ala	Gly	Ser	Ser															
				125					130					135															
Ser	Thr	Arg	Phe	Ile	Ala	Asn	Ser	Gln	Glu	Pro	Glu	Ile	Arg	Leu															
				140					145					150															
Thr	Ser	Ser	Leu	Pro	Arg	Ser	Pro	Gly	Arg	Ser	Thr	Glu	Asp	Leu															
				155					160					165															
Pro	Gly	Ser	Gln	Ala	Thr	Leu	Ser	Gln	Trp	Ser	Thr	Pro	Gly	Ser															
				170					175					180															
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				185					190					195															
Pro	Glu	Asp	Leu	Arg	Leu	Val	Leu	Met	Pro	Trp	Gly	Pro	Trp	His															
				200					205					210															
Cys	His	Cys	Lys	Ser	Gly	Thr	Met	Ser	Arg	Ser	Arg	Ser	Gly	Lys															
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				230					235					240															
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				260					265					270															
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				275					280					285															
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				290					295					300															
Pro	Pro	Ala	Ser	Pro	Cys	Pro	Ala	Leu	Ala	Phe	Trp	Lys	Arg	Val															
				305					310					315															
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Thr	Glu	Met	Gln	Pro	Ile	Asp	Arg	Asn	Gln	Arg																			
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&lt;210&gt; 298

&lt;211&gt; 2692

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 298

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 <211> 320  
 <212> PRT  
 <213> Homo sapiens

<400> 299  
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 35 40 45  
 Leu Asn His Phe Arg Ser Arg Gln Pro Ile Tyr Met Ser Leu Ala  
 50 55 60  
 Gly Trp Thr Cys Arg Asp Asp Cys Lys Tyr Glu Cys Met Trp Val  
 65 70 75



Thr Val Gly Leu Tyr Leu Gln Glu Gly His Lys Val Pro Gln Phe  
 80 85 90  
 His Gly Lys Trp Pro Phe Ser Arg Phe Leu Phe Phe Gln Glu Pro  
 95 100 105  
 Ala Ser Ala Val Ala Ser Phe Leu Asn Gly Leu Ala Ser Leu Val  
 110 115 120  
 Met Leu Cys Arg Tyr Arg Thr Phe Val Pro Ala Ser Ser Pro Met  
 125 130 135  
 Tyr His Thr Cys Val Ala Phe Ala Trp Val Ser Leu Asn Ala Trp  
 140 145 150  
 Phe Trp Ser Thr Val Phe His Thr Arg Asp Thr Asp Leu Thr Glu  
 155 160 165  
 Lys Met Asp Tyr Phe Cys Ala Ser Thr Val Ile Leu His Ser Ile  
 170 175 180  
 Tyr Leu Cys Cys Val Arg Thr Val Gly Leu Gln His Pro Ala Val  
 185 190 195  
 Val Ser Ala Phe Arg Ala Leu Leu Leu Leu Met Leu Thr Val His  
 200 205 210  
 Val Ser Tyr Leu Ser Leu Ile Arg Phe Asp Tyr Gly Tyr Asn Leu  
 215 220 225  
 Val Ala Asn Val Ala Ile Gly Leu Val Asn Val Val Trp Trp Leu  
 230 235 240  
 Ala Trp Cys Leu Trp Asn Gln Arg Arg Leu Pro His Val Arg Lys  
 245 250 255  
 Cys Val Val Val Val Leu Leu Leu Gln Gly Leu Ser Leu Leu Glu  
 260 265 270  
 Leu Leu Asp Phe Pro Pro Leu Phe Trp Val Leu Asp Ala His Ala  
 275 280 285  
 Ile Trp His Ile Ser Thr Ile Pro Val His Val Leu Phe Phe Ser  
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 Lys Phe Lys Leu Asp  
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<210> 300

<211> 1674

<212> DNA

<213> Homo sapiens

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<210> 301

090131 Z 000000Z JUL 65

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				20					25					30
Ser	His	Gln	Asn	Leu	Lys	Glu	Phe	Ala	Leu	Thr	Asn	Pro	Glu	Lys
				35					40					45
Ser	Ser	Thr	Lys	Glu	Thr	Glu	Arg	Lys	Glu	Thr	Lys	Ala	Glu	Glu
				50					55					60
Glu	Leu	Asp	Ala	Glu	Val	Leu	Glu	Val	Phe	His	Pro	Thr	His	Glu
				65					70					75
Trp	Gln	Ala	Leu	Gln	Pro	Gly	Gln	Ala	Val	Pro	Ala	Gly	Ser	His
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Val	Arg	Leu	Asn	Leu	Gln	Thr	Gly	Glu	Arg	Glu	Ala	Lys	Leu	Gln
				95					100					105
Tyr	Glu	Asp	Lys	Phe	Arg	Asn	Asn	Leu	Lys	Gly	Lys	Arg	Leu	Asp
				110					115					120
Ile	Asn	Thr	Asn	Thr	Tyr	Thr	Ser	Gln	Asp	Leu	Lys	Ser	Ala	Leu
				125					130					135
Ala	Lys	Phe	Lys	Glu	Gly	Ala	Glu	Met	Glu	Ser	Ser	Lys	Glu	Asp
				140					145					150
Lys	Ala	Arg	Gln	Ala	Glu	Val	Lys	Arg	Leu	Phe	Arg	Pro	Ile	Glu
				155					160					165
Glu	Leu	Lys	Lys	Asp	Phe	Asp	Glu	Leu	Asn	Val	Val	Ile	Glu	Thr
				170					175					180
Asp	Met	Gln	Ile	Met	Val	Arg	Leu	Ile	Asn	Lys	Phe	Asn	Ser	Ser
				185					190					195
Ser	Ser	Ser	Leu	Glu	Glu	Lys	Ile	Ala	Ala	Leu	Phe	Asp	Leu	Glu
				200					205					210
Tyr	Tyr	Val	His	Gln	Met	Asp	Asn	Ala	Gln	Asp	Leu	Leu	Ser	Phe
				215					220					225
Gly	Gly	Leu	Gln	Val	Val	Ile	Asn	Gly	Leu	Asn	Ser	Thr	Glu	Pro
				230					235					240
Leu	Val	Lys	Glu	Tyr	Ala	Ala	Phe	Val	Leu	Gly	Ala	Ala	Phe	Ser
				245					250					255
Ser	Asn	Pro	Lys	Val	Gln	Val	Glu	Ala	Ile	Glu	Gly	Gly	Ala	Leu
				260					265					270
Gln	Lys	Leu	Leu	Val	Ile	Leu	Ala	Thr	Glu	Gln	Pro	Leu	Thr	Ala
				275					280					285
Lys	Lys	Lys	Val	Leu	Phe	Ala	Leu	Cys	Ser	Leu	Leu	Arg	His	Phe

290	295	300
Pro Tyr Ala Gln Arg Gln Phe Leu Lys	Leu Gly Gly Leu Gln Val	315
305	310	
Leu Arg Thr Leu Val Gln Glu Lys Gly Thr Glu Val Leu Ala Val		330
320	325	
Arg Val Val Thr Leu Leu Tyr Asp Leu Val Thr Glu Lys Met Phe		345
335	340	
Ala Glu Glu Glu Ala Glu Leu Thr Gln Glu Met Ser Pro Glu Lys		360
350	355	
Leu Gln Gln Tyr Arg Gln Val His Leu Leu Pro Gly Leu Trp Glu		375
365	370	
Gln Gly Trp Cys Glu Ile Thr Ala His Leu Leu Ala Leu Pro Glu		390
380	385	
His Asp Ala Arg Glu Lys Val Leu Gln Thr Leu Gly Val Leu Leu		405
395	400	
Thr Thr Cys Arg Asp Arg Tyr Arg Gln Asp Pro Gln Leu Gly Arg		420
410	415	
Thr Leu Ala Ser Leu Gln Ala Glu Tyr Gln Val Leu Ala Ser Leu		435
425	430	
Glu Leu Gln Asp Gly Glu Asp Glu Gly Tyr Phe Gln Glu Leu Leu		450
440	445	
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<210> 302

<211> 2136

<212> DNA

<213> Homo sapiens

<400> 302

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gggttagcat cgtctgagta ggacggaaga tcacccatct ccatccgcca 550

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 ctgttatcaa tattttggct gatgcacttg ggcaggtgt ggttgggac 650  
 catggagact caccctatta ctctctgact tcagcctttc tgacagcagc 700  
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<210> 303  
 <211> 247  
 <212> PRT  
 <213> Homo sapiens

<400> 303

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				20					25					30	
Arg	Val	Ile	Ile	Leu	Val	Ala	Gly	Ala	Phe	Phe	Trp	Leu	Val	Ser	
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Leu	Leu	Leu	Ala	Ser	Val	Val	Trp	Phe	Ile	Leu	Val	His	Val	Thr	
				50					55					60	
Asp	Arg	Ser	Asp	Ala	Arg	Leu	Gln	Tyr	Gly	Leu	Leu	Ile	Phe	Gly	
				65					70					75	
Ala	Ala	Val	Ser	Val	Leu	Leu	Gln	Glu	Val	Phe	Arg	Phe	Ala	Tyr	
				80					85					90	
Tyr	Lys	Leu	Leu	Lys	Lys	Ala	Asp	Glu	Gly	Leu	Ala	Ser	Leu	Ser	
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Glu	Asp	Gly	Arg	Ser	Pro	Ile	Ser	Ile	Arg	Gln	Met	Ala	Tyr	Val	
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Ser	Gly	Leu	Ser	Phe	Gly	Ile	Ile	Ser	Gly	Val	Phe	Ser	Val	Ile	
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Asn	Ile	Leu	Ala	Asp	Ala	Leu	Gly	Pro	Gly	Val	Val	Gly	Ile	His	
				140					145					150	
Gly	Asp	Ser	Pro	Tyr	Tyr	Phe	Leu	Thr	Ser	Ala	Phe	Leu	Thr	Ala	
				155					160					165	
Ala	Ile	Ile	Leu	Leu	His	Thr	Phe	Trp	Gly	Val	Val	Phe	Phe	Asp	
				170					175					180	
Ala	Cys	Glu	Arg	Arg	Arg	Tyr	Trp	Ala	Leu	Gly	Leu	Val	Val	Gly	
				185					190					195	
Ser	His	Leu	Leu	Thr	Ser	Gly	Leu	Thr	Phe	Leu	Asn	Pro	Trp	Tyr	
				200					205					210	
Glu	Ala	Ser	Leu	Leu	Pro	Ile	Tyr	Ala	Val	Thr	Val	Ser	Met	Gly	
				215					220					225	
Leu	Trp	Ala	Phe	Ile	Thr	Ala	Gly	Gly	Ser	Leu	Arg	Ser	Ile	Gln	
				230					235					240	
Arg	Ser	Leu	Leu	Cys	Lys	Asp									
				245											

<210> 304  
 <211> 240  
 <212> DNA  
 <213> Homo sapiens

<220>

<221> unsure  
 <222> 108, 123, 126, 154, 198, 206, 217  
 <223> unknown base

<400> 304  
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 ccttcggnat catcagtgtt gtnttntctg ttatcaatat ttggctgat 150  
 gcanttgggc caggtgtgtt tgggatccat ggagactcac cctattantt 200  
 cctganttca gcctttntga cagcagccat tatcctgtctc 240

<210> 305  
 <211> 378  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 58, 94, 132, 186, 191, 220, 240, 248, 280, 311, 332  
 <223> unknown base

<400> 305  
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 ctgcttaaga aggcagatga ggggttagca tngctgagtg aggacggaag 150  
 atcacocatt tccatccgcc agatggccta tgtttntgtt ntttccttcg 200  
 gtatcatcag tgggtttttn tctgttatca atattttggn tgatgcantt 250  
 gggccaggtg tgggtgggat ccatggagan tcacctatt aattcctgaa 300  
 ttcagccttt ntgacagcag ccattatcct gntccatacc ttttggggag 350  
 ttgtgttttt tgatgcctgt gagaggag 378

<210> 306  
 <211> 655  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 1, 22, 129, 133, 184  
 <223> unknown base

<400> 306  
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 gcggtgccac cccacgcgga ctcccagnt gngcgccct tcccatttgc 150  
 ctgtctctgt caggccccca ccccccttcc cacntgacca gccattgggg 200  
 ctgcggtgtt tttcggctgc actttcgtcg cgttcggccc ggccttcgcg 250

cttttcttga tcaactgtggc tggggaccgc ctctcggtta tcactctggt 300  
 cgcaggggca tttttctggc tgggtctccct gctcctggcc tctgtggtct 350  
 gggtcatctt ggtccatgtg accgaccggt cagatgccc gctccagtac 400  
 ggctctctga tttttgggtg tgetgtctct gtcctttctac aggaggtggt 450  
 ccgctttgcc tactacaagc tgcttaagaa ggcagatgag gggtttagcat 500  
 cgctgagtga ggacggaaga tcacctatct ccacgcgcca gatggcctat 550  
 gtttctggtc tctccttcgg tatcatcagt ggtgtctctt ctgttatcaa 600  
 tattttggct gatgcacttg ggccagggtg ggttgggatc catggagact 650  
 ccccc 655

<210> 307  
 <211> 650  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 52, 89, 128  
 <223> unknown base

<400> 307  
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 cnttccccgg ggtctggggg tgacattgca ccgcgccctt cgtggggctcg 100  
 cgttgccacc ccacgcggac tcccagntg gcgcgccctt cccatttgcc 150  
 tgtctgggtc agggcccccac cccctctccc acctgaccag ccattgggggc 200  
 tgccgtgttt ttcgggctgc accttcgtcg cgttcgggac cggccttcgc 250  
 gcttttcttg atcactgtgg ctggggaccc gcttcgcttt atcactctgg 300  
 togcaggggc atttttcttg ctggtctccc tgctcctggc ctctgtggtc 350  
 tggttcatct tgggtcatgt gaccgaccgc tcagatgcc ggctccagta 400  
 cggcctcctg atttttgggt ctgctgtctc tgctcttcta caggaggtgt 450  
 tccgctttgc ctactacaag ctgcttaaga aggcagatga ggggttagca 500  
 tcgctgagtg aggacggaag atcaccatc tccatcgccc agatggccta 550  
 tgtttctggt ctctccttcg gtatcatcag tgggtgtctt tctgttatca 600  
 atattttggc tgatgcactt gggccagggt tggttgggat ccattggagac 650

<210> 308  
 <211> 1570  
 <212> DNA  
 <213> Homo sapiens

<400> 308  
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 ctggtgaggg tggctcagca ggcagggaag gagagggtc tgtgcgtcct 200  
 gcacccacat ctttctctgt cccctccttg cctgtctgg aggtgctag 250  
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 ggtggccctg ccttgtggt cctctctacc tggggaata aggtgcagcg 350  
 gccatggcta cagcaagacc cccctggatg tgggtgctct gtgctctgat 400  
 cacagccttg cttctggggg tcacagagca tgttctcgcc aacaatgatg 450  
 tttcctgtga ccacccctct aacaccgtgc cctctgggag caaccaggac 500  
 ctgggagctg gggccgggga agacgcccgg tcggatgaca gcagcagcg 550  
 catcatcaat ggatccgact gcgatatgca caccagccg tggcaggccg 600  
 cgctgttctg aaggccaac cagctctact gcggggcggt gttggtgcat 650  
 ccacagtggc tgctcacggc cgcccactgc aggaagaaag ttttcagagt 700  
 ccgtctcggc cactactccc tgtcaccagt ttatgaatct gggcagcaga 750  
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 gtgcgaggat gcttaccoga gacagataga tgacaccatg tctcgcgccg 1050  
 gtgacaaaag aggtagagac tcctgccagg gtgattctg ggggcctgtg 1100  
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<210> 309

<211> 293  
 <212> PRT  
 <213> Homo sapiens

<400> 309

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Ile	Thr	Ala	Leu	Leu	Leu	Gly	Val	Thr	Glu	His	Val	Leu	Ala	Asn	
			20						25					30	
Asn	Asp	Val	Ser	Cys	Asp	His	Pro	Ser	Asn	Thr	Val	Pro	Ser	Gly	
				35					40					45	
Ser	Asn	Gln	Asp	Leu	Gly	Ala	Gly	Ala	Gly	Glu	Asp	Ala	Arg	Ser	
				50					55					60	
Asp	Asp	Ser	Ser	Ser	Arg	Ile	Ile	Asn	Gly	Ser	Asp	Cys	Asp	Met	
				65					70					75	
His	Thr	Gln	Pro	Trp	Gln	Ala	Ala	Leu	Leu	Leu	Arg	Pro	Asn	Gln	
				80					85					90	
Leu	Tyr	Cys	Gly	Ala	Val	Leu	Val	His	Pro	Gln	Trp	Leu	Leu	Thr	
				95					100					105	
Ala	Ala	His	Cys	Arg	Lys	Lys	Val	Phe	Arg	Val	Arg	Leu	Gly	His	
				110					115					120	
Tyr	Ser	Leu	Ser	Pro	Val	Tyr	Glu	Ser	Gly	Gln	Gln	Met	Phe	Gln	
				125					130					135	
Gly	Val	Lys	Ser	Ile	Pro	His	Pro	Gly	Tyr	Ser	His	Pro	Gly	His	
				140					145					150	
Ser	Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asn	Arg	Arg	Ile	Arg	Pro	
				155					160					165	
Thr	Lys	Asp	Val	Arg	Pro	Ile	Asn	Val	Ser	Ser	His	Cys	Pro	Ser	
				170					175					180	
Ala	Gly	Thr	Lys	Cys	Leu	Val	Ser	Gly	Trp	Gly	Thr	Thr	Lys	Ser	
				185					190					195	
Pro	Gln	Val	His	Phe	Pro	Lys	Val	Leu	Gln	Cys	Leu	Asn	Ile	Ser	
				200					205					210	
Val	Leu	Ser	Gln	Lys	Arg	Cys	Glu	Asp	Ala	Tyr	Pro	Arg	Gln	Ile	
				215					220					225	
Asp	Asp	Thr	Met	Phe	Cys	Ala	Gly	Asp	Lys	Ala	Gly	Arg	Asp	Ser	
				230					235					240	
Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro	Val	Val	Cys	Asn	Gly	Ser	Leu	
				245					250					255	
Gln	Gly	Leu	Val	Ser	Trp	Gly	Asp	Tyr	Pro	Cys	Ala	Arg	Pro	Asn	
				260					265					270	
Arg	Pro	Gly	Val	Tyr	Thr	Asn	Leu	Cys	Lys	Phe	Thr	Lys	Trp	Ile	
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Gln	Glu	Thr	Ile	Gln	Ala	Asn	Ser								

<210> 310  
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 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> Synthetic oligonucleotide probe  
  
 <400> 310  
 tcctgtgacc accoctctaa cacc 24  
  
 <210> 311  
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 <212> DNA  
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 <220>  
 <223> Synthetic oligonucleotide probe  
  
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 ctggaacatc tgctgcccag attc 24  
  
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 <213> Artificial Sequence  
  
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 <223> Synthetic oligonucleotide probe  
  
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 <210> 313  
 <211> 3010  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 313  
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 gtttgtgctt aaaaaacaat aaatttgact tggcaccact ggggggtgtg 2950  
 gggagaggcc gtgtgacctg gctctctgtc ccagtgcac caggtcatcc 3000  
 acatgcgcag 3010

<210> 314  
 <211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 314  
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 Glu Asp Arg Pro Arg Asp Lys Pro Gln Arg Pro Ser Cys Gly Tyr  
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 Val Leu Cys Thr Val Leu Leu Ala Leu Ala Val Leu Leu Ala Val  
 35 40 45  
 Ala Val Thr Gly Ala Val Leu Phe Leu Asn His Ala His Ala Pro  
 50 55 60  
 Gly Thr Ala Pro Pro Pro Val Val Ser Thr Gly Ala Ala Ser Ala  
 65 70 75  
 Asn Ser Ala Leu Val Thr Val Glu Arg Ala Asp Ser Ser His Leu  
 80 85 90  
 Ser Ile Leu Ile Asp Pro Arg Cys Pro Asp Leu Thr Asp Ser Phe  
 95 100 105

Ala Arg Leu Glu Ser Ala Gln Ala Ser Val Leu Gln Ala Leu Thr	110	115	120
Glu His Gln Ala Gln Pro Arg Leu Val Gly Asp Gln Glu Gln Glu	125	130	135
Leu Leu Asp Thr Leu Ala Asp Gln Leu Pro Arg Leu Leu Ala Arg	140	145	150
Ala Ser Glu Leu Gln Thr Glu Cys Met Gly Leu Arg Lys Gly His	155	160	165
Gly Thr Leu Gly Gln Gly Leu Ser Ala Leu Gln Ser Glu Gln Gly	170	175	180
Arg Leu Ile Gln Leu Leu Ser Glu Ser Gln Gly His Met Ala His	185	190	195
Leu Val Asn Ser Val Ser Asp Ile Leu Asp Ala Leu Gln Arg Asp	200	205	210
Arg Gly Leu Gly Arg Pro Arg Asn Lys Ala Asp Leu Gln Arg Ala	215	220	225
Pro Ala Arg Gly Thr Arg Pro Arg Gly Cys Ala Thr Gly Ser Arg	230	235	240
Pro Arg Asp Cys Leu Asp Val Leu Leu Ser Gly Gln Gln Asp Asp	245	250	255
Gly Val Tyr Ser Val Phe Pro Thr His Tyr Pro Ala Gly Phe Gln	260	265	270
Val Tyr Cys Asp Met Arg Thr Asp Gly Gly Gly Trp Thr Val Phe	275	280	285
Gln Arg Arg Glu Asp Gly Ser Val Asn Phe Phe Arg Gly Trp Asp	290	295	300
Ala Tyr Arg Asp Gly Phe Gly Arg Leu Thr Gly Glu His Trp Leu	305	310	315
Gly Leu Lys Arg Ile His Ala Leu Thr Thr Gln Ala Ala Tyr Glu	320	325	330
Leu His Val Asp Leu Glu Asp Phe Glu Asn Gly Thr Ala Tyr Ala	335	340	345
Arg Tyr Gly Ser Phe Gly Val Gly Leu Phe Ser Val Asp Pro Glu	350	355	360
Glu Asp Gly Tyr Pro Leu Thr Val Ala Asp Tyr Ser Gly Thr Ala	365	370	375
Gly Asp Ser Leu Leu Lys His Ser Gly Met Arg Phe Thr Thr Lys	380	385	390
Asp Arg Asp Ser Asp His Ser Glu Asn Asn Cys Ala Ala Phe Tyr	395	400	405
Arg Gly Ala Trp Trp Tyr Arg Asn Cys His Thr Ser Asn Leu Asn	410	415	420

Gly Gln Tyr Leu Arg Gly Ala His Ala Ser Tyr Ala Asp Gly Val  
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 Glu Trp Ser Ser Trp Thr Gly Trp Gln Tyr Ser Leu Lys Phe Ser  
 440 445 450  
 Glu Met Lys Ile Arg Pro Val Arg Glu Asp Arg  
 455 460

<210> 315  
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 <212> DNA  
 <213> Artificial Sequence

<220>  
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<210> 316  
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<210> 318  
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 <212> DNA  
 <213> Homo sapiens

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 ggcaatccga ccacatttca ctctcacgc tgtaggaatc catagtgcagg 150  
 ccaagtacag cagcacgagg gacatgctgg atgatgatgg ggacaccacc 200  
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 ccctgtgcac ttgtgtcttg gtgtgtctga tagggctggc agccctgggg 350  
 cttttgtttt ttcagtacta ccagctctcc aatactggtc aagacaccat 400

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<210> 319

<211> 280

<212> PRT

<213> Homo sapiens



<400> 319

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Gly Asp Thr Thr Met Ser Leu His Ser Gln Ala Ser Ala Thr Thr
          20          25          30

Arg His Pro Glu Pro Arg Arg Thr Glu His Arg Ala Pro Ser Ser
          35          40          45

Thr Trp Arg Pro Val Ala Leu Thr Leu Leu Thr Leu Cys Leu Val
          50          55          60

Leu Leu Ile Gly Leu Ala Ala Leu Gly Leu Leu Phe Phe Gln Tyr
          65          70          75

Tyr Gln Leu Ser Asn Thr Gly Gln Asp Thr Ile Ser Gln Met Glu
          80          85          90

Glu Arg Leu Gly Asn Thr Ser Gln Glu Leu Gln Ser Leu Gln Val
          95          100          105

Gln Asn Ile Lys Leu Ala Gly Ser Leu Gln His Val Ala Glu Lys
          110          115          120

Leu Cys Arg Glu Leu Tyr Asn Lys Ala Gly Ala His Arg Cys Ser
          125          130          135

Pro Cys Thr Glu Gln Trp Lys Trp His Gly Asp Asn Cys Tyr Gln
          140          145          150

Phe Tyr Lys Asp Ser Lys Ser Trp Glu Asp Cys Lys Tyr Phe Cys
          155          160          165

Leu Ser Glu Asn Ser Thr Met Leu Lys Ile Asn Lys Gln Glu Asp
          170          175          180

Leu Glu Phe Ala Ala Ser Gln Ser Tyr Ser Glu Phe Phe Tyr Ser
          185          190          195

Tyr Trp Thr Gly Leu Leu Arg Pro Asp Ser Gly Lys Ala Trp Leu
          200          205          210

Trp Met Asp Gly Thr Pro Phe Thr Ser Glu Leu Phe His Ile Ile
          215          220          225

Ile Asp Val Thr Ser Pro Arg Ser Arg Asp Cys Val Ala Ile Leu
          230          235          240

Asn Gly Met Ile Phe Ser Lys Asp Cys Lys Glu Leu Lys Arg Cys
          245          250          255

Val Cys Glu Arg Arg Ala Gly Met Val Lys Pro Glu Ser Leu His
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Val Pro Pro Glu Thr Leu Gly Glu Gly Asp
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<211> 468

<212> DNA

<213> Homo sapiens

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 cttttgccac aattcgcat ccagagcccc ggcgcacaga gcacagggnt 150  
 cctttttcaa cgtggcgacc agtggccctg accctgctga ctttgtgctt 200  
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<210> 321  
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<400> 321  
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<210> 322  
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<210> 323  
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<210> 325  
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<213> Homo sapiens

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<211> 775

<212> PRT

<213> Homo sapiens

<400> 326

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				20					25					30
Val	Thr	Trp	Val	Glu	Glu	Pro	Cys	Gly	Pro	Gly	Pro	Pro	Gln	Pro
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Gly	Asp	Ser	Glu	Leu	Pro	Pro	Arg	Gly	Asn	Thr	Asn	Ala	Ala	Arg
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Arg	Pro	Asn	Ser	Val	Gln	Pro	Gly	Ala	Glu	Arg	Glu	Lys	Pro	Gly
				65					70					75
Ala	Gly	Glu	Gly	Ala	Gly	Glu	Asn	Trp	Glu	Pro	Arg	Val	Leu	Pro
				80					85					90
Tyr	His	Pro	Ala	Gln	Pro	Gly	Gln	Ala	Ala	Lys	Lys	Ala	Val	Arg
				95					100					105
Thr	Arg	Tyr	Ile	Ser	Thr	Glu	Leu	Gly	Ile	Arg	Gln	Arg	Leu	Leu
				110					115					120
Val	Ala	Val	Leu	Thr	Ser	Gln	Thr	Thr	Leu	Pro	Thr	Leu	Gly	Val
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Ala	Val	Asn	Arg	Thr	Leu	Gly	His	Arg	Leu	Glu	Arg	Val	Val	Phe
				140					145					150
Leu	Thr	Gly	Ala	Arg	Gly	Arg	Arg	Ala	Pro	Pro	Gly	Met	Ala	Val
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Val	Thr	Leu	Gly	Glu	Glu	Arg	Pro	Ile	Gly	His	Leu	His	Leu	Ala
				170					175					180
Leu	Arg	His	Leu	Leu	Glu	Gln	His	Gly	Asp	Asp	Phe	Asp	Trp	Phe
				185					190					195
Phe	Leu	Val	Pro	Asp	Thr	Thr	Tyr	Thr	Glu	Ala	His	Gly	Leu	Ala
				200					205					210
Arg	Leu	Thr	Gly	His	Leu	Ser	Leu	Ala	Ser	Ala	Ala	His	Leu	Tyr
				215					220					225
Leu	Gly	Arg	Pro	Gln	Asp	Phe	Ile	Gly	Gly	Glu	Pro	Thr	Pro	Gly
				230					235					240
Arg	Tyr	Cys	His	Gly	Gly	Phe	Gly	Val	Leu	Leu	Ser	Arg	Met	Leu
				245					250					255
Leu	Gln	Gln	Leu	Arg	Pro	His	Leu	Glu	Gly	Cys	Arg	Asn	Asp	Ile
				260					265					270

Val Ser Ala Arg	Pro Asp Glu Trp	Leu Gly Arg Cys Ile	Leu Asp
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Ala Thr Gly Val	Gly Cys Thr Gly Asp	His Glu Gly Val His	Tyr
	290	295	300
Ser His Leu Glu	Leu Ser Pro Gly Glu	Pro Val Gln Glu Gly	Asp
	305	310	315
Pro His Phe Arg	Ser Ala Leu Thr Ala	His Pro Val Arg Asp	Pro
	320	325	330
Val His Met Tyr	Gln Leu His Lys Ala	Phe Ala Arg Ala Glu	Leu
	335	340	345
Glu Arg Thr Tyr	Gln Glu Ile Gln Glu	Leu Gln Trp Glu Ile	Gln
	350	355	360
Asn Thr Ser His	Leu Ala Val Asp Gly	Asp Arg Ala Ala Ala	Trp
	365	370	375
Pro Val Gly Ile	Pro Ala Pro Ser Arg	Pro Ala Ser Arg Phe	Glu
	380	385	390
Val Leu Arg Trp	Asp Tyr Phe Thr Glu	Gln His Ala Phe Ser	Cys
	395	400	405
Ala Asp Gly Ser	Pro Arg Cys Pro Leu	Arg Gly Ala Asp Arg	Ala
	410	415	420
Asp Val Ala Asp	Val Leu Gly Thr Ala	Leu Glu Glu Leu Asn	Arg
	425	430	435
Arg Tyr His Pro	Ala Leu Arg Leu Gln	Lys Gln Gln Leu Val	Asn
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Gly Tyr Arg Arg	Phe Asp Pro Ala Arg	Gly Met Glu Tyr Thr	Leu
	455	460	465
Asp Leu Gln Leu	Glu Ala Leu Thr Pro	Gln Gly Gly Arg Arg	Pro
	470	475	480
Leu Thr Arg Arg	Val Gln Leu Leu Arg	Pro Leu Ser Arg Val	Glu
	485	490	495
Ile Leu Pro Val	Pro Tyr Val Thr Glu	Ala Ser Arg Leu Thr	Val
	500	505	510
Leu Leu Pro Leu	Ala Ala Ala Glu Arg	Asp Leu Ala Pro Gly	Phe
	515	520	525
Leu Glu Ala Phe	Ala Thr Ala Ala Leu	Glu Pro Gly Asp Ala	Ala
	530	535	540
Ala Ala Leu Thr	Leu Leu Leu Leu Tyr	Glu Pro Arg Gln Ala	Gln
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Arg Val Ala His	Ala Asp Val Phe Ala	Pro Val Lys Ala His	Val
	560	565	570
Ala Glu Leu Glu	Arg Arg Phe Pro Gly	Ala Arg Val Pro Trp	Leu
	575	580	585

Ser Val Gln Thr Ala Ala Pro Ser Pro Leu Arg Leu Met Asp Leu  
 590 595 600  
 Leu Ser Lys Lys His Pro Leu Asp Thr Leu Phe Leu Leu Ala Gly  
 605 610 615  
 Pro Asp Thr Val Leu Thr Pro Asp Phe Leu Asn Arg Cys Arg Met  
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 Ala Phe His Pro Gly Val Ala Pro Pro Gln Gly Pro Gly Pro Pro  
 650 655 660  
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 Arg Ala Val Glu Pro Ala Leu Leu Gln Arg Tyr Arg Ala Gln Thr  
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 Cys Ser Ala Arg Leu Ser Glu Asp Leu Tyr His Arg Cys Leu Gln  
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<210> 327

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 327

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<210> 328

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<212> DNA

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<210> 329

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 <213> Homo sapiens  
  
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 ctaagtgggg ctcaagaagc accgccttcc cccccctg cctgccattc 1050  
 tgacctcttc tcagagcacc taattaaagc ggtgaaagt ctgaa 1095

<210> 334  
 <211> 153  
 <212> PRT  
 <213> Homo sapiens

<400> 334  
 Met Ala Ala Gly Leu Phe Gly Leu Ser Ala Arg Arg Leu Leu Ala  
 1 5 10 15  
 Ala Ala Ala Thr Arg Gly Leu Pro Ala Ala Arg Val Arg Trp Glu  
 20 25 30  
 Ser Ser Phe Ser Arg Thr Val Val Ala Pro Ser Ala Val Ala Gly  
 35 40 45  
 Lys Arg Pro Pro Glu Pro Thr Thr Pro Trp Gln Glu Asp Pro Glu  
 50 55 60  
 Pro Glu Asp Glu Asn Leu Tyr Glu Lys Asn Pro Asp Ser His Gly  
 65 70 75  
 Tyr Asp Lys Asp Pro Val Leu Asp Val Trp Asn Met Arg Leu Val  
 80 85 90  
 Phe Phe Phe Gly Val Ser Ile Ile Leu Val Leu Gly Ser Thr Phe  
 95 100 105  
 Val Ala Tyr Leu Pro Asp Tyr Arg Met Lys Glu Trp Ser Arg Arg  
 110 115 120  
 Glu Ala Glu Arg Leu Val Lys Tyr Arg Glu Ala Asn Gly Leu Pro  
 125 130 135  
 Ile Met Glu Ser Asn Cys Phe Asp Pro Ser Lys Ile Gln Leu Pro  
 140 145 150

Glu Asp Glu

<210> 335  
<211> 442  
<212> DNA  
<213> Homo sapiens

<400> 335  
ggcggcgtggg ctgttttggt tgagcgctcg cgtcttttg gcggcagcgg 50  
cgacgcgagg gctcccggcc gcccggtcc gctgggaatc tagcttctcc 100  
aggactgtgg togcctcgtc cgctgtggcg ggaagcggc cccagaacc 150  
gaccacaccg tggcaagagg acccagaacc cgaggacgaa aacttgatg 200  
agaagaacc agactcccat ggttatgaca aggaccccg tttggacgtc 250  
tggaacatgc gacttgtctt ctcttttggc gtctccatca tcttggtcct 300  
tggcagcacc tttgtggcct atctgcctga ctacaggatg aaagagtgg 350  
cccgccgca agctgagagg ctgtgaaat accgagagg caatggcctt 400  
cccatcatgg aatccaactg ctctgacccc agcaagatcc ag 442

<210> 336  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 336  
ctgagaccct gcagacccat ctg 23

<210> 337  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 337  
ggtgcttctt gagccccact tagc 24

<210> 338  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 338  
aatctagctt ctccaggact gtggtcgccc cgtccgctgt 40

<210> 339  
<211> 2162  
<212> DNA

<213> Homo sapiens

<400> 339

gcggcggtga tgcgcgttgc tctgctcgtc ctgttgcctc tggggcccg 50  
cggtcgtgct cttgcagaac cccacgcga cagcctgcgg gaggaacttg 100  
tcacatcccc gctgccttcc ggggacgtag ccgccacatt ccagttccgc 150  
acgcgctggg attcggagct tcagcgggaa ggagtgtccc attacaggct 200  
ctttccaaaa gccctggggc agctgatctc caagtattct ctacgggagc 250  
tgcacctgtc attcacaaa ggcttttgga ggaccgcata ctggggggcca 300  
cccttctctc aggccccatc aggtgcagag ctgtgggtct ggttccaaga 350  
cactgtcact gatgtggata aatcttgga ggagctcagt aatgtcctct 400  
cagggatctt ctgcgcctct ctcaacttca tgcactccac caacacagtc 450  
actcccaactg cctccttcaa acccctgggt ctggccaatg aactgacca 500  
ctactttctg cgtatgctg tgctgcgcgg ggaggtggct tgcaccgaaa 550  
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gggcagggaa agaaagactg gtccctcttc cggatgttct ccggaacct 800  
cacggagccc tgcgccctgg cttcagagag ccgagtctat gtggacatca 850  
ccacctaca ccaggacaac gagacattag aggtgcaccc acccccgacc 900  
actacatato aggacgtcat cctaggcact cgaagacct atgcatctc 950  
tgacttgctt gacaccgcca tgatcaaaa ctctgaaac ctcaacatcc 1000  
agctcaagtg gaagagaccc ccagagaatg agggccccc agtgccttc 1050  
ctgcatgccc agcggtagct gagtggctat gggctgcaga agggggagct 1100  
gagcacactg ctgtacaaca cccaccata ccgggccttc cgggtgctgc 1150  
tgctggacac cgtacctggt tatctgcggc tgtatgtgca caccctcacc 1200  
atcacctcca agggcaagga gaacaaacca agttacatcc actaccagcc 1250  
tgcccaggac cggctgcaac cccacctct ggagatgctg attcagctgc 1300  
cggccaactc agtcaaccaag gtttccatcc agtttgagcg ggcgctgctg 1350  
aagtggaccg agtacacgcc agatcctaac catggtctct atgtcagccc 1400  
atctgtctcc agcgccttg tggccagcat ggtagcagc aagccagtgg 1450  
actgggaaga gattccctc ttcaacagcc tgttcccagt ctctgatggc 1500

tctaactact ttgtgcggct ctacacggag cgcgtgctgt tgaacctgcc 1550  
gacaccggac ttcagcatgc cctacaacgt gatctgcctc acgtgcactg 1600  
tggtagccgt gtgctacggc tocttctaca atctctcacc ccgaaccttc 1650  
cacatcgagg agccccgcac aggtggcctg gccaaagcggc tggccaaact 1700  
tatccggcgc gcccgaggtg tccccccact ctgattcttg ccctttccag 1750  
cagctgcagc tgcggtttct ctctggggag gggagcccaa gggctgtttc 1800  
tgccacttgc tctctcaga gttggtttt gaaccaaagt gccctggacc 1850  
aggtcagggc ctacagctgt gttgtccagt acaggagcca cgagccaaat 1900  
gtggcatttg aatttgaatt aacttagaaa ttcatttcot caoctgtagt 1950  
ggccacctct atattgaggt gctcaataag caaaagtggg cggtggctgc 2000  
tgtattggac agcacagaaa aagatttcca tcaccacaga aaggtcggct 2050  
ggcagcactg gccaaaggtg tgggggtgtc tacacagtgt atgtcactgt 2100  
gtagtggatg gagtttactg tttgtggaat aaaaacggct gtttccgtgg 2150  
aaaaaaaa aa 2162

<210> 340  
<211> 574  
<212> PRT  
<213> Homo sapiens

<400> 340  
Met Pro Leu Ala Leu Val Leu Leu Leu Gly Pro Gly Gly  
1 5 10 15  
Trp Cys Leu Ala Glu Pro Pro Arg Asp Ser Leu Arg Glu Glu Leu  
20 25 30  
Val Ile Thr Pro Leu Pro Ser Gly Asp Val Ala Ala Thr Phe Gln  
35 40 45  
Phe Arg Thr Arg Trp Asp Ser Glu Leu Gln Arg Glu Gly Val Ser  
50 55 60  
His Tyr Arg Leu Phe Pro Lys Ala Leu Gly Gln Leu Ile Ser Lys  
65 70 75  
Tyr Ser Leu Arg Glu Leu His Leu Ser Phe Thr Gln Gly Phe Trp  
80 85 90  
Arg Thr Arg Tyr Trp Gly Pro Pro Phe Leu Gln Ala Pro Ser Gly  
95 100 105  
Ala Glu Leu Trp Val Trp Phe Gln Asp Thr Val Thr Asp Val Asp  
110 115 120  
Lys Ser Trp Lys Glu Leu Ser Asn Val Leu Ser Gly Ile Phe Cys  
125 130 135  
Ala Ser Leu Asn Phe Ile Asp Ser Thr Asn Thr Val Thr Pro Thr  
140 145 150

Ala Ser Phe Lys Pro Leu Gly Leu Ala Asn Asp Thr Asp His Tyr  
 155 160 165  
 Phe Leu Arg Tyr Ala Val Leu Pro Arg Glu Val Val Cys Thr Glu  
 170 175 180  
 Asn Leu Thr Pro Trp Lys Lys Leu Leu Pro Cys Ser Ser Lys Ala  
 185 190 195  
 Gly Leu Ser Val Leu Leu Lys Ala Asp Arg Leu Phe His Thr Ser  
 200 205 210  
 Tyr His Ser Gln Ala Val His Ile Arg Pro Val Cys Arg Asn Ala  
 215 220 225  
 Arg Cys Thr Ser Ile Ser Trp Glu Leu Arg Gln Thr Leu Ser Val  
 230 235 240  
 Val Phe Asp Ala Phe Ile Thr Gly Gln Gly Lys Lys Asp Trp Ser  
 245 250 255  
 Leu Phe Arg Met Phe Ser Arg Thr Leu Thr Glu Pro Cys Pro Leu  
 260 265 270  
 Ala Ser Glu Ser Arg Val Tyr Val Asp Ile Thr Thr Tyr Asn Gln  
 275 280 285  
 Asp Asn Glu Thr Leu Glu Val His Pro Pro Pro Thr Thr Thr Tyr  
 290 295 300  
 Gln Asp Val Ile Leu Gly Thr Arg Lys Thr Tyr Ala Ile Tyr Asp  
 305 310 315  
 Leu Leu Asp Thr Ala Met Ile Asn Asn Ser Arg Asn Leu Asn Ile  
 320 325 330  
 Gln Leu Lys Trp Lys Arg Pro Pro Glu Asn Glu Ala Pro Pro Val  
 335 340 345  
 Pro Phe Leu His Ala Gln Arg Tyr Val Ser Gly Tyr Gly Leu Gln  
 350 355 360  
 Lys Gly Glu Leu Ser Thr Leu Leu Tyr Asn Thr His Pro Tyr Arg  
 365 370 375  
 Ala Phe Pro Val Leu Leu Leu Asp Thr Val Pro Trp Tyr Leu Arg  
 380 385 390  
 Leu Tyr Val His Thr Leu Thr Ile Thr Ser Lys Gly Lys Glu Asn  
 395 400 405  
 Lys Pro Ser Tyr Ile His Tyr Gln Pro Ala Gln Asp Arg Leu Gln  
 410 415 420  
 Pro His Leu Leu Glu Met Leu Ile Gln Leu Pro Ala Asn Ser Val  
 425 430 435  
 Thr Lys Val Ser Ile Gln Phe Glu Arg Ala Leu Leu Lys Trp Thr  
 440 445 450  
 Glu Tyr Thr Pro Asp Pro Asn His Gly Phe Tyr Val Ser Pro Ser  
 455 460 465

Val Leu Ser Ala Leu Val Pro Ser Met Val Ala Ala Lys Pro Val  
470 475 480

Asp Trp Glu Glu Ser Pro Leu Phe Asn Ser Leu Phe Pro Val Ser  
485 490 495

Asp Gly Ser Asn Tyr Phe Val Arg Leu Tyr Thr Glu Pro Leu Leu  
500 505 510

Val Asn Leu Pro Thr Pro Asp Phe Ser Met Pro Tyr Asn Val Ile  
515 520 525

Cys Leu Thr Cys Thr Val Val Ala Val Cys Tyr Gly Ser Phe Tyr  
530 535 540

Asn Leu Leu Thr Arg Thr Phe His Ile Glu Glu Pro Arg Thr Gly  
545 550 555

Gly Leu Ala Lys Arg Leu Ala Asn Leu Ile Arg Arg Ala Arg Gly  
560 565 570

Val Pro Pro Leu

<210> 341  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 341  
tggacaccgt accctgtgat ctgc 24

<210> 342  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> Artificial Sequence  
<222> 1-24  
<223> Synthetic oligonucleotide probe

<400> 342  
ccaactctga ggagagcaag tggc 24

<210> 343  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 343  
tgtatgtgca caccctcacc atcacctcca agggcaagga gaac 44

<210> 344  
<211> 762  
<212> DNA  
<213> Homo sapiens

<400> 344  
 caacatgggg tccagcagct tcttggtcct catggtgtct ctggttcttg 50  
 tgacctggt ggctgtggaa ggagttaaag agggatataga gaaagcaggg 100  
 gtttccccag ctgacaacgt acgctgcttc aagtcgcgac ctccccagtg 150  
 tcacacagac caggactgtc tgggggaaag gaagtgttg tacctgcact 200  
 gtggcttcaa gtgtgtgatt cctgtgaagg aactggaaga aggaggaaac 250  
 aaggatgaag atgtgtcaag gccataccct gagccaggat gggaggccaa 300  
 gtgtccaggc tcctcctcta ccaggtgtcc tcagaaatga tgctgggtcc 350  
 tttctacctc tgggggtcac tctcacttgg cacctgcccc tgagggtcct 400  
 gagacttga ataggaaga agcaataccc aaccccacca aagaaaacct 450  
 gagcttgaag tccttttccc caaaaagagg gaagagtcac aaaaagtcca 500  
 gaccccaggg acggtacttt cctctctcac ctggtgctct ccctaattgc 550  
 tcataaatgg acccctcatg aatgaaacca gtgcccttat aagagacccc 600  
 aaagagctgc cttgcccttc tgcaatgtgt gatcacagct agaaggcact 650  
 gtcagagaag agaaactggt cctcaccaga tgctgaatct gctggtgect 700  
 tgatcttga cttcccagcc tctagaactg taagaaataa atatttgetg 750  
 tttataatcc aa 762

<210> 345

<211> 111

<212> PRT

<213> Homo sapiens

<400> 345

Met	Gly	Ser	Ser	Ser	Phe	Leu	Val	Leu	Met	Val	Ser	Leu	Val	Leu
1				5					10					15
Val	Thr	Leu	Val	Ala	Val	Glu	Gly	Val	Lys	Glu	Gly	Ile	Glu	Lys
			20						25					30
Ala	Gly	Val	Cys	Pro	Ala	Asp	Asn	Val	Arg	Cys	Phe	Lys	Ser	Asp
			35						40					45
Pro	Pro	Gln	Cys	His	Thr	Asp	Gln	Asp	Cys	Leu	Gly	Glu	Arg	Lys
			50						55					60
Cys	Cys	Tyr	Leu	His	Cys	Gly	Phe	Lys	Cys	Val	Ile	Pro	Val	Lys
			65						70					75
Glu	Leu	Glu	Glu	Gly	Gly	Asn	Lys	Asp	Glu	Asp	Val	Ser	Arg	Pro
			80						85					90
Tyr	Pro	Glu	Pro	Gly	Trp	Glu	Ala	Lys	Cys	Pro	Gly	Ser	Ser	Ser
			95						100					105
Thr	Arg	Cys	Pro	Gln	Lys									
			110											

<210> 346  
 <211> 2528  
 <212> DNA  
 <213> Homo sapiens

<400> 346  
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 gccccaggac atgcagaacc ttctctaga acccgaccca ccaccatgag 150  
 gtcttgcttg tggagatgca ggcacctgag coaaggogtc cagtggctct 200  
 tgcttctggc tgctctggtc ttctttctct tgccttgcc ctcttttatt 250  
 aaggaggctc aaacaaagcc ttccaggcat caacgcacag agaacattaa 300  
 agaaaagtct ctacagtccc tggcaaaagc taagtccag gcaccacaa 350  
 gggcgaggag gacaaccatc tatgcagagc cagcgccaga gaacaatgcc 400  
 ctcaacacac aaaccagacc caaggccacc accaccggag acagaggaaa 450  
 ggaggccaac caggcacccg cgaggaggca ggacaagggt cccacacag 500  
 cacagagggc agcatggaag agcccgaaaa aagagaaaa catggtgaac 550  
 acactgtcac ccagagggca agatgcagg atggcctctg gcaggacaga 600  
 ggcacaatca tggaaagacc aggcacaaaa gacgacccaa ggaatgggg 650  
 gccagaccag gaagctgacg gcctccagga cggtgtcaga gaagcaccag 700  
 ggcaaaagcg caaccacagc caagacgctc attccaaaa gtcagcacag 750  
 aatgctggct cccacaggag cagtgtcaac aaggacgaga cagaaaggag 800  
 tgaccacagc agtcattcca cctaaggaga agaaacctca ggccaccca 850  
 cccctgccc cttccagag cccacgacg cagagaaacc aaagactgaa 900  
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 aaagctcca agtcgctgtg gctccagaaa ctctttctgc ccaacctcac 1050  
 tctcttctg gactccagac acttcaacca gagtgaagtg gaccgccttg 1100  
 aacactttgc accacccttt ggcttcattg agctcaacta ctcttggtg 1150  
 cagaaggctg tgacacgctt cctccagtg ccccgacgc agctgctcct 1200  
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 gcaacggggg catctgaac aactccaca tgggcccagga gatagacagt 1300  
 cagactacg tgttcogatt gagcggagct ctcattaaag gctacgaaca 1350  
 ggatgtgggg actcggacat ccttctacg ctttaccgct ttctcctga 1400  
 cccagtcact ccttatattg ggcaatcggg gtttcaagaa cgtgcctctt 1450



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 tctgtgttcag gcacagaccc caggaagcctt ttcgggaagc cctgcacatg 1600  
 gacaggtacc tgtgtgtgca cccagacttt ctccgataca tgaagaacag 1650  
 gtttctgagg tctaagaccc tggatgggtgc ccatggagg atataccgcc 1700  
 ccaccactgg ggccctcttg ctgctcactg ccttcagct ctgtgaccag 1750  
 gtgagtgtct atggcttcat cactgagggc catgagcgct tttctgatca 1800  
 ctactatgat acatcatgga agcggctgat cttttacata aacctgact 1850  
 tcaagctgga gagagaagtc tggaagcggc tacacgatga agggataatc 1900  
 cggctgtacc agcgtcttg tcccggaact gccaaagcca agaactgacc 1950  
 ggggccaggg ctgccatggt ctccctgcct gctccaaggc acaggataca 2000  
 gtgggaatct tgagactctt tggccatttc ccatggctca gactaagctc 2050  
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 ctcaagatgg caaatggcta attgagggtc tgaagttctt cagtacattg 2150  
 ctgtaggctc tgaggccagg gatttttaat taaatggggt gatgggtggc 2200  
 caataccaca attctgtg taaaacactc ttccagtcca aaagcttctt 2250  
 gatacagaaa aaagagcctg gattttacaga aacatataga tctggtttga 2300  
 attccagatc gagtttacag ttgtgaaatc ttgaaggtat tacttaactt 2350  
 cactacagat tgtctagaag acctttctag gagttatctg attctagaag 2400  
 ggtctatact tgtccttgtc tttaagctat ttgacaactc tacgtgttgt 2450  
 agaaaaactg taataatata aatgattggt gtccatggaa aggcaataa 2500  
 attttctaca gtgaaaaaaaa aaaaaaaaa 2528

<210> 347

<211> 600

<212> PRT

<213> Homo sapiens

<400> 347

Met	Arg	Ser	Cys	Leu	Trp	Arg	Cys	Arg	His	Leu	Ser	Gln	Gly	Val
1				5					10					15
Gln	Trp	Ser	Leu	Leu	Leu	Ala	Val	Leu	Val	Phe	Phe	Leu	Phe	Ala
			20						25					30
Leu	Pro	Ser	Phe	Ile	Lys	Glu	Pro	Gln	Thr	Lys	Pro	Ser	Arg	His
			35						40					45
Gln	Arg	Thr	Glu	Asn	Ile	Lys	Glu	Arg	Ser	Leu	Gln	Ser	Leu	Ala
			50						55					60
Lys	Pro	Lys	Ser	Gln	Ala	Pro	Thr	Arg	Ala	Arg	Arg	Thr	Thr	Ile

65	70	75
Tyr Ala Glu Pro Ala	Pro Glu Asn Asn	Ala Leu Asn Thr Gln Thr
80	85	90
Gln Pro Lys Ala His	Thr Thr Gly Asp	Arg Gly Lys Glu Ala Asn
95	100	105
Gln Ala Pro Pro Glu	Glu Gln Asp Lys	Val Pro His Thr Ala Gln
110	115	120
Arg Ala Ala Trp Lys	Ser Pro Glu Lys	Glu Lys Thr Met Val Asn
125	130	135
Thr Leu Ser Pro Arg	Gly Gln Asp Ala	Gly Met Ala Ser Gly Arg
140	145	150
Thr Glu Ala Gln Ser	Trp Lys Ser Gln	Asp Thr Lys Thr Thr Gln
155	160	165
Gly Asn Gly Gly Gln	Thr Arg Lys Leu	Thr Ala Ser Arg Thr Val
170	175	180
Ser Glu Lys His Gln	Gly Lys Ala Ala	Thr Thr Ala Lys Thr Leu
185	190	195
Ile Pro Lys Ser Gln	His Arg Met Leu	Ala Pro Thr Gly Ala Val
200	205	210
Ser Thr Arg Thr Arg	Gln Lys Gly Val	Thr Thr Ala Val Ile Pro
215	220	225
Pro Lys Glu Lys Lys	Pro Gln Ala Thr	Pro Pro Ala Pro Phe
230	235	240
Gln Ser Pro Thr Thr	Gln Arg Asn Gln	Arg Leu Lys Ala Ala Asn
245	250	255
Phe Lys Ser Glu Pro	Arg Trp Asp Phe	Glu Glu Lys Tyr Ser Phe
260	265	270
Glu Ile Gly Gly Leu	Gln Thr Thr Cys	Pro Asp Ser Val Lys Ile
275	280	285
Lys Ala Ser Lys Ser	Leu Trp Leu Gln	Lys Leu Phe Leu Pro Asn
290	295	300
Leu Thr Leu Phe Leu	Asp Ser Arg His	Phe Asn Gln Ser Glu Trp
305	310	315
Asp Arg Leu Glu His	Phe Ala Pro Pro	Gly Gly Phe Met Glu Leu
320	325	330
Asn Tyr Ser Leu Val	Gln Lys Val Val	Thr Arg Phe Pro Pro Val
335	340	345
Pro Gln Gln Gln Leu	Leu Leu Ala Ser	Leu Pro Ala Gly Ser Leu
350	355	360
Arg Cys Ile Thr Cys	Ala Val Val Gly	Asn Gly Gly Ile Leu Asn
365	370	375
Asn Ser His Met Gly	Gln Glu Ile Asp	Ser His Asp Tyr Val Phe

	380		385		390
Arg Leu Ser Gly	Ala Leu Ile Lys Gly	Tyr Glu Gln Asp Val Gly			
	395	400			405
Thr Arg Thr Ser	Phe Tyr Gly Phe Thr	Ala Phe Ser Leu Thr Gln			
	410	415			420
Ser Leu Leu Ile	Leu Gly Asn Arg Gly	Phe Lys Asn Val Pro Leu			
	425	430			435
Gly Lys Asp Val	Arg Tyr Leu His Phe	Leu Glu Gly Thr Arg Asp			
	440	445			450
Tyr Glu Trp Leu	Glu Ala Leu Leu Met	Asn Gln Thr Val Met Ser			
	455	460			465
Lys Asn Leu Phe	Trp Phe Arg His Arg	Pro Gln Glu Ala Phe Arg			
	470	475			480
Glu Ala Leu His	Met Asp Arg Tyr Leu	Leu Leu His Pro Asp Phe			
	485	490			495
Leu Arg Tyr Met	Lys Asn Arg Phe Leu	Arg Ser Lys Thr Leu Asp			
	500	505			510
Gly Ala His Trp	Arg Ile Tyr Arg Pro	Thr Thr Gly Ala Leu Leu			
	515	520			525
Leu Leu Thr Ala	Leu Gln Leu Cys Asp	Gln Val Ser Ala Tyr Gly			
	530	535			540
Phe Ile Thr Glu	Gly His Glu Arg Phe	Ser Asp His Tyr Tyr Asp			
	545	550			555
Thr Ser Trp Lys	Arg Leu Ile Phe Tyr	Ile Asn His Asp Phe Lys			
	560	565			570
Leu Glu Arg Glu	Val Trp Lys Arg Leu	His Asp Glu Gly Ile Ile			
	575	580			585
Arg Leu Tyr Gln	Arg Pro Gly Pro Gly	Thr Ala Lys Ala Lys Asn			
	590	595			600

&lt;210&gt; 348

&lt;211&gt; 496

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 348

cgatgcgcgg acccgggcac ccctctctcc tggggctgct gctggtgctg 50  
 gggccttcgc cggagcagcg agtggaaatt gttcctcgag atctgaggat 100  
 gaaggacaag tttctaaaac accttacagc ccctctttat tttagtccaa 150  
 agtgacgcaa acacttccat agactttatc acâacaccag agactgcacc 200  
 attcctgcat actataaaag atgcgcacag cttcttaccg ggctggctgt 250  
 cagtccagtg tgcattggag ataagtgcgc agaccgtaca ggagcagcac 300  
 accaggagcc atgagaagtg ccttggaac caacagggaa acagaactat 350

ctttatacac atccccctcat ggacaagaga tttatttttg cagacagact 400  
 cttccataag tccttttgagt tttgtatgtt gttgacagtt tgcagatata 450  
 tattcgataa atcagtgtagc ttgacagtgt tatctgtcac ttattt 496

<210> 349  
 <211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 349  
 Met Arg Gly Pro Gly His Pro Leu Leu Leu Gly Leu Leu Leu Val  
 1 5 10 15  
 Leu Gly Pro Ser Pro Glu Gln Arg Val Glu Ile Val Pro Arg Asp  
 20 25 30  
 Leu Arg Met Lys Asp Lys Phe Leu Lys His Leu Thr Gly Pro Leu  
 35 40 45  
 Tyr Phe Ser Pro Lys Cys Ser Lys His Phe His Arg Leu Tyr His  
 50 55 60  
 Asn Thr Arg Asp Cys Thr Ile Pro Ala Tyr Tyr Lys Arg Cys Ala  
 65 70 75  
 Arg Leu Leu Thr Arg Leu Ala Val Ser Pro Val Cys Met Glu Asp  
 80 85 90  
 Lys

<210> 350  
 <211> 1141  
 <212> DNA  
 <213> Homo sapiens

<400> 350  
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 ttctctggga ggcccgcacc cggccgcgcgc cagcccccac catgccacc 100  
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 caggcatcgc ctccagctgtg atcctctttg ttgctgtggt tgcaccacc 400  
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 ccacagcctg gcttcatgta cccacctagt ggtcctgctc cccaatatcc 600

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<210> 351

<211> 197

<212> PRT

<213> Homo sapiens

<400> 351

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			20						25					30
Cys	Leu	Trp	Tyr	Leu	Asp	Arg	Asn	Gly	Ser	Trp	His	Pro	Gly	Phe
			35						40					45
Asn	Cys	Glu	Phe	Phe	Thr	Phe	Cys	Cys	Gly	Thr	Cys	Tyr	His	Arg
			50						55					60
Tyr	Cys	Cys	Arg	Asp	Leu	Thr	Leu	Leu	Ile	Thr	Glu	Arg	Gln	Gln
			65						70					75
Lys	His	Cys	Leu	Ala	Phe	Ser	Pro	Lys	Thr	Ile	Ala	Gly	Ile	Ala
			80						85					90
Ser	Ala	Val	Ile	Leu	Phe	Val	Ala	Val	Val	Ala	Thr	Thr	Ile	Cys
			95						100					105
Cys	Phe	Leu	Cys	Ser	Cys	Cys	Tyr	Leu	Tyr	Arg	Arg	Arg	Gln	Gln
			110						115					120
Leu	Gln	Ser	Pro	Phe	Glu	Gly	Gln	Glu	Ile	Pro	Met	Thr	Gly	Ile
			125						130					135
Pro	Val	Gln	Pro	Val	Tyr	Pro	Tyr	Pro	Gln	Asp	Pro	Lys	Ala	Gly
			140						145					150
Pro	Ala	Pro	Pro	Gln	Pro	Gly	Phe	Met	Tyr	Pro	Pro	Ser	Gly	Pro
			155						160					165
Ala	Pro	Gln	Tyr	Pro	Leu	Tyr	Pro	Ala	Gly	Pro	Pro	Val	Tyr	Asn
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185 190 195

Gly Ala

<210> 352  
<211> 3226  
<212> DNA  
<213> Homo sapiens

<400> 352  
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gagtacgtca tcccagttca ttatgatctc ttgatccatg caaaccttac 300  
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 cgtgtttcaa ggtttgaatg agctgattcc tatgtataag ttaattggaga 2150  
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<210> 353  
 <211> 941  
 <212> PRT  
 <213> Homo sapiens

<400> 353  
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 Trp Cys Gln Ser Thr Glu Ala Ser Pro Lys Arg Ser Asp Gly Thr  
 35 40 45  
 Pro Phe Pro Trp Asn Lys Ile Arg Leu Pro Glu Tyr Val Ile Pro  
 50 55 60  
 Val His Tyr Asp Leu Leu Ile His Ala Asn Leu Thr Thr Leu Thr  
 65 70 75  
 Phe Trp Gly Thr Thr Lys Val Glu Ile Thr Ala Ser Gln Pro Thr  
 80 85 90  
 Ser Thr Ile Ile Leu His Ser His His Leu Gln Ile Ser Arg Ala  
 95 100 105  
 Thr Leu Arg Lys Gly Ala Gly Glu Arg Leu Ser Glu Glu Pro Leu  
 110 115 120  
 Gln Val Leu Glu His Pro Pro Gln Glu Gln Ile Ala Leu Leu Ala  
 125 130 135  
 Pro Glu Pro Leu Leu Val Gly Leu Pro Tyr Thr Val Val Ile His  
 140 145 150  
 Tyr Ala Gly Asn Leu Ser Glu Thr Phe His Gly Phe Tyr Lys Ser  
 155 160 165  
 Thr Tyr Arg Thr Lys Glu Gly Glu Leu Arg Ile Leu Ala Ser Thr  
 170 175 180  
 Gln Phe Glu Pro Thr Ala Ala Arg Met Ala Phe Pro Cys Phe Asp  
 185 190 195  
 Glu Pro Ala Phe Lys Ala Ser Phe Ser Ile Lys Ile Arg Arg Glu  
 200 205 210  
 Pro Arg His Leu Ala Ile Ser Asn Met Pro Leu Val Lys Ser Val



Thr Val Ala Glu Gly Leu Ile Glu Asp	215	His Phe Asp Val Thr Val	220	225
230		235		240
Lys Met Ser Thr Tyr Leu Val Ala Phe Ile Ile Ser Asp Phe Glu	245	250		255
Ser Val Ser Lys Ile Thr Lys Ser Gly Val Lys Val Ser Val Tyr	260	265		270
Ala Val Pro Asp Lys Ile Asn Gln Ala Asp Tyr Ala Leu Asp Ala	275	280		285
Ala Val Thr Leu Leu Glu Phe Tyr Glu Asp Tyr Phe Ser Ile Pro	290	295		300
Tyr Pro Leu Pro Lys Gln Asp Leu Ala Ala Ile Pro Asp Phe Gln	305	310		315
Ser Gly Ala Met Glu Asn Trp Gly Leu Thr Thr Tyr Arg Glu Ser	320	325		330
Ala Leu Leu Phe Asp Ala Glu Lys Ser Ser Ala Ser Ser Lys Leu	335	340		345
Gly Ile Thr Val Thr Val Ala His Glu Leu Ala His Gln Trp Phe	350	355		360
Gly Asn Leu Val Thr Met Glu Trp Trp Asn Asp Leu Trp Leu Asn	365	370		375
Glu Gly Phe Ala Lys Phe Met Glu Phe Val Ser Val Ser Val Thr	380	385		390
His Pro Glu Leu Lys Val Gly Asp Tyr Phe Phe Gly Lys Cys Phe	395	400		405
Asp Ala Met Glu Val Asp Ala Leu Asn Ser Ser His Pro Val Ser	410	415		420
Thr Pro Val Glu Asn Pro Ala Gln Ile Arg Glu Met Phe Asp Asp	425	430		435
Val Ser Tyr Asp Lys Gly Ala Cys Ile Leu Asn Met Leu Arg Glu	440	445		450
Tyr Leu Ser Ala Asp Ala Phe Lys Ser Gly Ile Val Gln Tyr Leu	455	460		465
Gln Lys His Ser Tyr Lys Asn Thr Lys Asn Glu Asp Leu Trp Asp	470	475		480
Ser Met Ala Ser Ile Cys Pro Thr Asp Gly Val Lys Gly Met Asp	485	490		495
Gly Phe Cys Ser Arg Ser Gln His Ser Ser Ser Ser Ser His Trp	500	505		510
His Gln Glu Gly Val Asp Val Lys Thr Met Met Asn Thr Trp Thr	515	520		525
Leu Gln Arg Gly Phe Pro Leu Ile Thr Ile Thr Val Arg Gly Arg				

530										535					540				
Asn	Val	His	Met	Lys	Gln	Glu	His	Tyr	Met	Val	Lys	Gly	Ser	Asp	Gly				
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Ala	Pro	Asp	Thr	Gly	Tyr	Leu	Trp	His	Val	Pro	Leu	Thr	Phe	Ile					
				560					565					570					
Thr	Ser	Lys	Ser	Asn	Met	Val	His	Arg	Phe	Leu	Leu	Lys	Thr	Lys					
				575					580					585					
Thr	Asp	Val	Leu	Ile	Leu	Pro	Glu	Glu	Val	Glu	Trp	Ile	Lys	Phe					
				590					595					600					
Asn	Val	Gly	Met	Asn	Gly	Tyr	Tyr	Ile	Val	His	Tyr	Glu	Asp	Asp					
				605					610					615					
Gly	Trp	Asp	Ser	Ser	Leu	Thr	Gly	Leu	Lys	Gly	Thr	His	Thr	Ala					
				620					625					630					
Val	Ser	Ser	Asn	Asp	Arg	Ala	Ser	Leu	Ile	Asn	Asn	Ala	Phe	Gln					
				635					640					645					
Leu	Val	Ser	Ile	Gly	Lys	Leu	Ser	Ile	Glu	Lys	Ala	Leu	Asp	Leu					
				650					655					660					
Ser	Leu	Tyr	Leu	Lys	His	Glu	Thr	Glu	Ile	Met	Pro	Val	Phe	Gln					
				665					670					675					
Gly	Leu	Asn	Glu	Leu	Ile	Pro	Met	Tyr	Lys	Leu	Met	Glu	Lys	Arg					
				680					685					690					
Asp	Met	Asn	Glu	Val	Glu	Thr	Gln	Phe	Lys	Ala	Phe	Leu	Ile	Arg					
				695					700					705					
Leu	Leu	Arg	Asp	Leu	Ile	Asp	Lys	Gln	Thr	Trp	Thr	Asp	Glu	Gly					
				710					715					720					
Ser	Val	Ser	Glu	Gln	Met	Leu	Arg	Ser	Glu	Leu	Leu	Leu	Leu	Ala					
				725					730					735					
Cys	Val	His	Asn	Tyr	Gln	Pro	Cys	Val	Gln	Arg	Ala	Glu	Gly	Tyr					
				740					745					750					
Phe	Arg	Lys	Trp	Lys	Glu	Ser	Asn	Gly	Asn	Leu	Ser	Leu	Pro	Val					
				755					760					765					
Asp	Val	Thr	Leu	Ala	Val	Phe	Ala	Val	Gly	Ala	Gln	Ser	Thr	Glu					
				770					775					780					
Gly	Trp	Asp	Phe	Leu	Tyr	Ser	Lys	Tyr	Gln	Phe	Ser	Leu	Ser	Ser					
				785					790					795					
Thr	Glu	Lys	Ser	Gln	Ile	Glu	Phe	Ala	Leu	Cys	Arg	Thr	Gln	Asn					
				800					805					810					
Lys	Glu	Lys	Leu	Gln	Trp	Leu	Leu	Asp	Glu	Ser	Phe	Lys	Gly	Asp					
				815					820					825					
Lys	Ile	Lys	Thr	Gln	Glu	Phe	Pro	Gln	Ile	Leu	Thr	Leu	Ile	Gly					
				830					835					840					
Arg	Asn	Pro	Val	Gly	Tyr	Pro	Leu	Ala	Trp	Gln	Phe	Leu	Arg	Lys					

	845		850		855
Asn Trp Asn Lys	Leu Val Gln Lys Phe	Glu Leu Gly Ser Ser Ser			
	860		865		870
Ile Ala His Met	Val Met Gly Thr Thr	Asn Gln Phe Ser Thr Arg			
	875		880		885
Thr Arg Leu Glu	Glu Val Lys Gly Phe	Phe Ser Ser Leu Lys Glu			
	890		895		900
Asn Gly Ser Gln	Leu Arg Cys Val Gln	Gln Thr Ile Glu Thr Ile			
	905		910		915
Glu Glu Asn Ile	Gly Trp Met Asp Lys	Asn Phe Asp Lys Ile Arg			
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Val Trp Leu Gln	Ser Glu Lys Leu Glu Arg Met				
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 <211> 1587  
 <212> DNA  
 <213> Homo sapiens

<400> 354  
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 gttcagcatg tgtggaaggt gtccgaccta ccccggaat ggaccctaa 150  
 gaacaccagc tgcgacagcg gcttgggggt ccaggacacg ttgatgctca 200  
 ttgagagcgg accccaagtg agcctgggtgc tctccaaggg gtgcacggag 250  
 gccaaaggacc aggagccccg cgtcactgag caccggatgg gccccggcct 300  
 ctccctgata tctacacct tcgtgtgccg ccaggaggac ttctgcaaca 350  
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 tgcatgccc agccaggttg caacctgctc aatgggacac aggaatttg 600  
 gcccggtggg atgactgaga actgcaatag gaaagatttt ctgacctgtc 650  
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 cactcagccc ctctctgggt gcttggggcc tcctataccc acttctgtct 900  
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 aatggccttg gacaccagat tctttcccat tctgtccatg aatcatcttc 1450  
 cccacacaca atcattcata tctactcacc taacagcaac actggggaga 1500  
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<210> 355  
 <211> 437  
 <212> PRT  
 <213> Homo sapiens

<400> 355  
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 His Val Trp Lys Val Ser Asp Leu Pro Arg Gln Trp Thr Pro Lys  
 35 40 45  
 Asn Thr Ser Cys Asp Ser Gly Leu Gly Cys Gln Asp Thr Leu Met  
 50 55 60  
 Leu Ile Glu Ser Gly Pro Gln Val Ser Leu Val Leu Ser Lys Gly  
 65 70 75  
 Cys Thr Glu Ala Lys Asp Gln Glu Pro Arg Val Thr Glu His Arg  
 80 85 90  
 Met Gly Pro Gly Leu Ser Leu Ile Ser Tyr Thr Phe Val Cys Arg  
 95 100 105  
 Gln Glu Asp Phe Cys Asn Asn Leu Val Asn Ser Leu Pro Leu Trp  
 110 115 120  
 Ala Pro Gln Pro Pro Ala Asp Pro Gly Ser Leu Arg Cys Pro Val  
 125 130 135  
 Cys Leu Ser Met Glu Gly Cys Leu Glu Gly Thr Thr Glu Glu Ile  
 140 145 150  
 Cys Pro Lys Gly Thr Thr His Cys Tyr Asp Gly Leu Leu Arg Leu

155	160	165
Arg Gly Gly Gly Ile Phe Ser Asn Leu	Arg Val Gln Gly Cys Met	
170	175	180
Pro Gln Pro Gly Cys Asn Leu Leu Asn	Gly Thr Gln Glu Ile Gly	
185	190	195
Pro Val Gly Met Thr Glu Asn Cys Asn	Arg Lys Asp Phe Leu Thr	
200	205	210
Cys His Arg Gly Thr Thr Ile Met Thr	His Gly Asn Leu Ala Gln	
215	220	225
Glu Pro Thr Asp Trp Thr Thr Ser Asn	Thr Glu Met Cys Glu Val	
230	235	240
Gly Gln Val Cys Gln Glu Thr Leu Leu	Leu Ile Asp Val Gly Leu	
245	250	255
Thr Ser Thr Leu Val Gly Thr Lys Gly	Cys Ser Thr Val Gly Ala	
260	265	270
Gln Asn Ser Gln Lys Thr Thr Ile His	Ser Ala Pro Pro Gly Val	
275	280	285
Leu Val Ala Ser Tyr Thr His Phe Cys	Ser Ser Asp Leu Cys Asn	
290	295	300
Ser Ala Ser Ser Ser Ser Val Leu Leu	Asn Ser Leu Pro Pro Gln	
305	310	315
Ala Ala Pro Val Pro Gly Asp Arg Gln	Cys Pro Thr Cys Val Gln	
320	325	330
Pro Leu Gly Thr Cys Ser Ser Gly Ser	Pro Arg Met Thr Cys Pro	
335	340	345
Arg Gly Ala Thr His Cys Tyr Asp Gly	Tyr Ile His Leu Ser Gly	
350	355	360
Gly Gly Leu Ser Thr Lys Met Ser Ile	Gln Gly Cys Val Ala Gln	
365	370	375
Pro Ser Ser Phe Leu Leu Asn His Thr	Arg Gln Ile Gly Ile Phe	
380	385	390
Ser Ala Arg Glu Lys Arg Asp Val Gln	Pro Pro Ala Ser Gln His	
395	400	405
Glu Gly Gly Gly Ala Glu Gly Leu Glu	Ser Leu Thr Trp Gly Val	
410	415	420
Gly Leu Ala Leu Ala Pro Ala Leu Trp	Trp Gly Val Val Cys Pro	
425	430	435

Ser Cys

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 <211> 1238  
 <212> DNA  
 <213> Homo sapiens

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 tcagcctggc cttcctgtca ctgctgccat ctggacatcc tcagccggct 150  
 ggccgatagc cctgctctgt gcagatcctc gtccttgccc tcaaaggagg 200  
 tgccgggagag aaggagagca aaggcgcccc cggacggcct ggaagagtcg 250  
 gcccccaggg agaaaaagga gacatggggg acaaaaggaca gaaaggcagt 300  
 gtgggtgtgc atgaaaaaat tggccccatt ggctctaaag gtgagaaagg 350  
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 catgtgagtg cagccagctg cgcaaggcca tcggggagat ggacaaccag 450  
 gtctctcagc tgaccagcga gctcaagttc atcaagaatg ctgtccggcg 500  
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 gcgccttcgt gtactctgac cactccccc tgcggacctt caacaagtgg 750  
 cgcagcgggt agcccaacaa tgcctacgac gaggaggact gcgtggagat 800  
 ggtggcctcg gccgggtgga acgacgtggc ctgccacacc accatgtact 850  
 tcattgtgtg gtttgacaag gagaacatgt gagcctcagg ctggggctgc 900  
 ccattggggg ccccatcatgt cctgcaggg ttggcaggga cagagcccag 950  
 accatggtgc cagccaggga gctgtccctc tgtgaagggt ggaggctcac 1000  
 tgagtagagg gctgttgtct aaactgagaa aatggcctat gcttaagagg 1050  
 aaaatgaaag tgttcctggg gtgctgtctc tgaagaagca gagtttcatt 1100  
 acctgtattg tagccccaat gtcattatgt aattattacc cagaattgct 1150  
 cttccataaa gcttgtgcct ttgtccaagc tatacaataa aatctttaag 1200  
 tagtgcagta gttaagtcca aaaaaaaaa aaaaaaaaa 1238

<210> 357  
 <211> 271  
 <212> PRT  
 <213> Homo sapiens

<400> 357  
 Met Arg Gly Asn Leu Ala Leu Val Gly Val Leu Ile Ser Leu Ala  
 1 5 10 15  
 Phe Leu Ser Leu Leu Pro Ser Gly His Pro Gln Pro Ala Gly Asp  
 20 25 30

Asp	Ala	Cys	Ser	Val	Gln	Ile	Leu	Val	Pro	Gly	Leu	Lys	Gly	Asp	45
				35					40						
Ala	Gly	Glu	Lys	Gly	Asp	Lys	Gly	Ala	Pro	Gly	Arg	Pro	Gly	Arg	60
				50					55						
Val	Gly	Pro	Thr	Gly	Glu	Lys	Gly	Asp	Met	Gly	Asp	Lys	Gly	Gln	75
				65					70						
Lys	Gly	Ser	Val	Gly	Arg	His	Gly	Lys	Ile	Gly	Pro	Ile	Gly	Ser	90
				80					85						
Lys	Gly	Glu	Lys	Gly	Asp	Ser	Gly	Asp	Ile	Gly	Pro	Pro	Gly	Pro	105
				95					100						
Asn	Gly	Glu	Pro	Gly	Leu	Pro	Cys	Glu	Cys	Ser	Gln	Leu	Arg	Lys	120
				110					115						
Ala	Ile	Gly	Glu	Met	Asp	Asn	Gln	Val	Ser	Gln	Leu	Thr	Ser	Glu	135
				125					130						
Leu	Lys	Phe	Ile	Lys	Asn	Ala	Val	Ala	Gly	Val	Arg	Glu	Thr	Glu	150
				140					145						
Ser	Lys	Ile	Tyr	Leu	Leu	Val	Lys	Glu	Glu	Lys	Arg	Tyr	Ala	Asp	165
				155					160						
Ala	Gln	Leu	Ser	Cys	Gln	Gly	Arg	Gly	Gly	Thr	Leu	Ser	Met	Pro	180
				170					175						
Lys	Asp	Glu	Ala	Ala	Asn	Gly	Leu	Met	Ala	Ala	Tyr	Leu	Ala	Gln	195
				185					190						
Ala	Gly	Leu	Ala	Arg	Val	Phe	Ile	Gly	Ile	Asn	Asp	Leu	Glu	Lys	210
				200					205						
Glu	Gly	Ala	Phe	Val	Tyr	Ser	Asp	His	Ser	Pro	Met	Arg	Thr	Phe	225
				215					220						
Asn	Lys	Trp	Arg	Ser	Gly	Glu	Pro	Asn	Asn	Ala	Tyr	Asp	Glu	Glu	240
				230					235						
Asp	Cys	Val	Glu	Met	Val	Ala	Ser	Gly	Gly	Trp	Asn	Asp	Val	Ala	255
				245					250						
Cys	His	Thr	Thr	Met	Tyr	Phe	Met	Cys	Glu	Phe	Asp	Lys	Glu	Asn	270
				260					265						

Met

<210> 358

<211> 972

<212> DNA

<213> Homo sapiens

<400> 358

agtgactgca gacctctag atccctccca ctccgtttct ctctttgcag 50

gagcaccggc agcaccagtg tgtgagggga gcaggcagcg gtcctagcca 100

gttctctgat cctgccagac caccagccc ccggcacaga gctgctccac 150

aggcaccatg aggatcatgc tgctattcac agccatcctg gccttcagcc 200  
tagctcagag ctttggggct gtctgtaagg agccacagga ggagggtggt 250  
cctggcgggg gccgcagcaa gagggatcca gatctctacc agctgctcca 300  
gagactcttc aaaagccact catctctgga gggattgtgc aaagccctga 350  
gccaggctag cacagatcct aaggaatcaa catctcccg gaaacgtgac 400  
atgcatgact tctttgtggg acttatgggc aagaggagcg tccagccaga 450  
gggaagaca ggacctttct taccttcagt gagggttcct cggccccctc 500  
atcccaatca gottggatcc acaggaaagt ctccctggg aacagaggag 550  
cagagacott tataagactc tcctacggat gtgaatcaag agaacgtccc 600  
cagctttggc atcctcaagt atcccccag agcagaatag gtactccact 650  
tcggactacc tggactgcat taggaagacc tctttccctg tcccaatccc 700  
cagggtgcga cgctcctgtt accctttctc ttccctgttc ttgtaacatt 750  
cttgtgtctt gactccttct ccatcttttc tacctgaccc tgggtgtgaa 800  
actgcatagt gaatatcccc aaccocaatg ggcattgact gtagaatacc 850  
ctagagtcc tgtagtgacc tacattaata atataatgct tctctctatt 900  
ctccaacaat aaaggatttt tgcatatgaa aaaaaaaaaa aaaaaaaaaa 950  
aaaaaaaaaa aaaaaaaaaa aa 972

<210> 359  
<211> 135  
<212> PRT  
<213> Homo sapiens

<400> 359  
Met Arg Ile Met Leu Leu Phe Thr Ala Ile Leu Ala Phe Ser Leu  
1 5 10 15  
Ala Gln Ser Phe Gly Ala Val Cys Lys Glu Pro Gln Glu Glu Val  
20 25 30  
Val Pro Gly Gly Gly Arg Ser Lys Arg Asp Pro Asp Leu Tyr Gln  
35 40 45  
Leu Leu Gln Arg Leu Phe Lys Ser His Ser Ser Leu Glu Gly Leu  
50 55 60  
Leu Lys Ala Leu Ser Gln Ala Ser Thr Asp Pro Lys Glu Ser Thr  
65 70 75  
Ser Pro Glu Lys Arg Asp Met His Asp Phe Phe Val Gly Leu Met  
80 85 90  
Gly Lys Arg Ser Val Gln Pro Glu Gly Lys Thr Gly Pro Phe Leu  
95 100 105  
Pro Ser Val Arg Val Pro Arg Pro Leu His Pro Asn Gln Leu Gly  
110 115 120



Ser Thr Gly Lys Ser Ser Leu Gly Thr Glu Glu Gln Arg Pro Leu  
125 130 135

<210> 360  
<211> 1738  
<212> DNA  
<213> Homo sapiens

<400> 360  
ggcgctctcc ggctgctcct attgagctgt ctgctcgctg tgcccgctgt 50  
gcctgctgtg ccgcgcgtgt cgccgctgct accgcgtctg ctggacgcgg 100  
gagacgccag cgagctggtg attggagccc tgcggagagc tcaagcgccc 150  
agctctgccc caggagocca ggctgccocg tgagtcccat agttgctgca 200  
ggagtggagc catgagctgc gtccctgggtg gtgtcatccc cttggggctg 250  
ctgttctctg tctcgggatc ccaaggctac ctccctgccca acgtcactct 300  
cttagaggag ctgctcagca aataccagca caacgagtct cactcccggg 350  
tccgcagagc catccccagg gaggacaagg aggagatcct catgtctgac 400  
aacaagcttc ggggccaagt gcagcctcag gcctccaaca tggagtacat 450  
ggtagcgccc ggctccggcc gcagaggctg gcaccggggg tggggcctgg 500  
gccaccagcc tgctctgttc ccagccagc tctgttcccc agccagtgcg 550  
tgtgatggtt ggctcagggt ctccctctggc aggggaggat ccgcgtctg 600  
ttctgttttg ttgtttgtt ttgagacagg gtctcactct gccactgacg 650  
ctggagtga atggcacaat cgtcatgccc tgaaacctta gactcccggg 700  
gttaagcgat cctgcttcag cctcccaagt agctggaact acaggcatgc 750  
accatggtgc ccagctagat tttaaatatt ttgtggagat gggggctctg 800  
ctacgttgcc caggctgggtc ttgaactcct aggtcacaag aatcctcctg 850  
cctcagcctc tcaaagtgtt aggtattatg gcattgagtc cctgtctgg 900  
ctctggctct gttcttaaca ttctgccaaa acaacacacg tgggttcctt 950  
gtgcagagcc tgccctgttg ccttcattgc actcttggtg gtcactctgg 1000  
gaacacagct ctacgccttt ccacacctga ggcagagtgg ggagggggccc 1050  
agggtctggc ttgtctgatg ctgatctcag ctgtgccaca cgtatagctg 1100  
accaccctga cttctcctta gcccggtgta gcctcacttt ccacttgag 1150  
agtccctctc cgcgtggttg ccatgactgt gagataagtc gaggctgtga 1200  
agggcccgcc acagactgac ctgcctcccc aacccttagg ctttgctaac 1250  
cgggaaagga gctaacggtg acagaagaca gccaaagtca accctcccg 1300  
gtgattgtga tgggtgttcc aggtgtggtt gggcgatgct gctacttgac 1350

cccaagctcc agtgtgaaaa cttccttcct ggctgggttt ccagaactac 1400  
 agaggaatgg accacagtct tccagggtcc ctccctgtcc accaaccggg 1450  
 agcctccacc ttggccatcc gtcagctatg aatggctttt taacaaacc 1500  
 cagctcccag cctgggtaac atggtaaagc cccgtctcta caaaaaaac 1550  
 caagttagcc gggcatggtg gtgcgcacct gtagtcccag ctgcagtggg 1600  
 actgaggtgg aggtggaggt ggggggtggg agctgaggaa ggaggatcgc 1650  
 ttgagcctgg gaagtcgagg ctgcagtggg ctgagattgc accactgcac 1700  
 tccagcctgg gtgacagagc aagaccctgt ctcaaaaa 1738

<210> 361  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 361  
 Met Ser Cys Val Leu Gly Gly Val Ile Pro Leu Gly Leu Leu Phe  
 1 5 10 15  
 Leu Val Cys Gly Ser Gln Gly Tyr Leu Leu Pro Asn Val Thr Leu  
 20 25 30  
 Leu Glu Glu Leu Leu Ser Lys Tyr Gln His Asn Glu Ser His Ser  
 35 40 45  
 Arg Val Arg Arg Ala Ile Pro Arg Glu Asp Lys Glu Glu Ile Leu  
 50 55 60  
 Met Leu His Asn Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser  
 65 70 75  
 Asn Met Glu Tyr Met Val Ser Ala Gly Ser Gly Arg Arg Gly Trp  
 80 85 90  
 His Arg Gly Trp Gly Leu Gly His Gln Pro Ala Leu Phe Pro Ser  
 95 100 105  
 Gln Leu Cys Ser Pro Ala Ser Ala Cys Asp Gly Trp Leu Arg Val  
 110 115 120  
 Ser Ser Gly Arg Gly Gly Ser Arg Leu Cys Ser Val Leu Phe Val  
 125 130 135  
 Cys Phe Glu Thr Gly Ser His Ser Ala Thr Asp Ala Gly Val Gln  
 140 145 150  
 Trp His Asn Arg His Ala Leu Lys Pro  
 155

<210> 362  
 <211> 422  
 <212> DNA  
 <213> Homo sapiens

<400> 362  
 aaggagagc caccgggact tcagtgtctc ctccatccca ggagcgagc 50

ggccactatg ggggtctgggc tgcccccttgt cctcctcttg accctccttg 100  
gcagctcaca tggaacaggc cggggtatga ctttgcaact gaagctgaag 150  
gagtccttttc tgacaaattc ctctatgag tccagcttcc tggaattgct 200  
tgaaaagctc tgcctcctcc tccatctccc ttcaggggacc agcgtoaccc 250  
tccaccatgc aagatctcaa caccatgttg tctgcaacac atgacagcca 300  
ttgaagcctg tgtcctctct ggcccgggct tttggggccg ggatgcagga 350  
ggcaggcccc gaccctgtct ttcagcaggc cccaccctc ctgagtggca 400  
ataaataaaa ttcggtatgc tg 422

<210> 363  
<211> 78  
<212> PRT  
<213> Homo sapiens

<400> 363  
Met Gly Ser Gly Leu Pro Leu Val Leu Leu Leu Thr Leu Leu Gly 15  
1 5 10  
Ser Ser His Gly Thr Gly Pro Gly Met Thr Leu Gln Leu Lys Leu 30  
20 25  
Lys Glu Ser Phe Leu Thr Asn Ser Ser Tyr Glu Ser Ser Phe Leu 45  
35 40  
Glu Leu Leu Glu Lys Leu Cys Leu Leu Leu His Leu Pro Ser Gly 60  
50 55  
Thr Ser Val Thr Leu His His Ala Arg Ser Gln His His Val Val 75  
65 70  
Cys Asn Thr

<210> 364  
<211> 826  
<212> DNA  
<213> Homo sapiens

<400> 364  
aattgtatct gtgtaattgtt aaaacaaacg aaataaaaata gaaggaaaaa 50  
ctttctgagt ttcaaaaaca acagactagt actctaaaga actctttaa 100  
acaattaact gtaggattg cagttatgat tggatattat ttaattctgt 150  
ttctgatgtg gggttcctcc actgtgttct gtgtgctatt aatatttacc 200  
attgcagaag cttcattcag tgttgaaaat gaatgcttag tggatctgtg 250  
octottacgc atatgttaca aattatctcg agttcctaata caatgcagag 300  
ttccccctcc ctccgattgt tctaaataat tgaaagatgt ctgctgtgga 350  
aaaaggcatg tatttaaatac tgatgatgc tcaaccatct ttagttggga 400  
aaggtccttg aaagccaatg gaaatacttt ttttttttct tggcactaat 450

caagtgagtg ttaccttttc acttagtagg atgtgttgtt acgctagtaa 500  
aatagaaacc tgtgtttatt ctacaggtatt ttagaaacaa cagccatcat 550  
ttttttttat gtgtgtgttc ttggctgtat tcataaatta tatattttgg 600  
gctatcaaat attacttcat tcaatataaa taacaatagt agaagttgtt 650  
tacttagata tgctttctag ttgcattttc tcagcctatg taagactact 700  
ttgttgtaat agcctttgaa atttacagta ctgtctctct actatcttca 750  
gattacttga ttcaaataaa ccaattatgt ttgtaattga tattaataaa 800  
accagaataa aagttcatat ctaccc 826

<210> 365  
<211> 67  
<212> PRT  
<213> Homo sapiens

<400> 365  
Met Ile Gly Tyr Tyr Leu Ile Leu Phe Leu Met Trp Gly Ser Ser  
1 5 10 15  
Thr Val Phe Cys Val Leu Leu Ile Phe Thr Ile Ala Glu Ala Ser  
20 25 30  
Phe Ser Val Glu Asn Glu Cys Leu Val Asp Leu Cys Leu Leu Arg  
35 40 45  
Ile Cys Tyr Lys Leu Ser Gly Val Pro Asn Gln Cys Arg Val Pro  
50 55 60  
Leu Pro Ser Asp Cys Ser Lys  
65

<210> 366  
<211> 2475  
<212> DNA  
<213> Homo sapiens

<400> 366  
gaggatttgc cacagcagcg gatagagcag gagagcacca ccggagccct 50  
tgagacatcc ttgagaagag ccacagcata agagactgcc ctgcttgggtg 100  
ttttgcagga tgatgggtgc ccttcgagga gctttctgcat tgctgggtct 150  
gttccttgca gcttttctgc ccccgccgca gtgtacccag gaccagcca 200  
tggtgcatta catctaccag cgctttcgag tcttggagca agggctggaa 250  
aaatgtacc aagcaacgag ggcatacatt caagaattcc aagagttctc 300  
aaaaataata totgtcatgc tgggaagatg tcagacctac acaagtgtg 350  
acaagatgac agtgggtaac ttggcactga gagttgaacg tgcccaacg 400  
gagattgact acatacaata ccttcgagag gctgacgagt gcatcgtatc 450  
agaggacaag acactggcag aaatgttgct ccaagaagct gaagaagaga 500

aaaagatccg gactctgctg aatgcaagct gtgacaacat gctgatgggc 550  
 ataaagtctt tgaatatagt gaagaagatg atggacacac atggctcttg 600  
 gatgaaagat gctgtctata actctccaaa ggtgtactta ttaattggat 650  
 ccagaaacaa cactgttttg gaatttgcaa acatacgggc attcatggag 700  
 gataaacacca agccagctcc cgggaagcaa atcctaacac ttctctggca 750  
 gggaacaggc caagtgatct acaaaggttt tctatttttt cataaccaag 800  
 caacttctaa tgagataatc aaatataacc tgcagaagag gactgtggaa 850  
 gatogaatgc tgctcccagg aggggtaggc cgagcattgg ttaccagca 900  
 ctccccctca acttacattg acctggctgt ggatgagcat gggctctggg 950  
 ccatccactc tgggccaggc acccatagcc atttggttct cacaaagatt 1000  
 gagccgggca cactgggagt ggagcattca tgggataccc catgcagaag 1050  
 ccaggatgct gaagcctcat tctctttgtg tggggtttct tatgtggtct 1100  
 acagtactgg gggccagggc cctcatcgca tcacctgcat ctatgatcca 1150  
 ctgggcaacta tcagttagga ggacttgccc aacttgttct tccccagag 1200  
 accaagaagt cactccatga tccattacaa cccagagatg aagcagctct 1250  
 atgcttgaa tgaaggaaac cagatcattt acaaaactca gacaaagaga 1300  
 aagctgcctc tgaagtaatg cattacagct gtgagaagaa gcaactgtgc 1350  
 tttggcagct gttctacagg acagttaggc tatagccctc tcacaatata 1400  
 gtatccctct aatcacacac aggaagagtg tgtagaagtg gaaatacgta 1450  
 tgctctcttt cccaaatgtc actgccttag gtatcttcca agagcttaga 1500  
 tgagagcata tcatcaggaa agtttcaaca atgtccatta ctccccaaa 1550  
 cctcttggtc ctcaaggatg accacattct gatacagcct acttcaagcc 1600  
 ttttgtttta ctgtcccca gcatttactg taactctgcc atcttccctc 1650  
 ccacaattag agttgtatgc cagccctcaa tattaccac tggtctttct 1700  
 ctccccctgc ctttgctgaa gctcttccct ctttttcaaa tgtctattga 1750  
 tattctccca ttttcaactgc ccaactaaaa tactattaat atttctttct 1800  
 tttctttct ttttttgag acaaggctct actatgttgc ccaggtggtg 1850  
 ctcaaactcc agagctcaag agatcctct gctcagcct cctaagtacc 1900  
 tgggattaca ggcatgtgcc accacacctg gcttaaaaa ctatttctta 1950  
 ttgaggttta acctctattt cccctagccc tgtcctcca ctaagcttgg 2000  
 tagatgtaat aataaagtga aaatattaac atttgaatat cgctttccag 2050  
 gtgtggagtg tttgcacatc attgaattct cgtttcacct ttgtgaaca 2100

tgcacaaagtc ttacagctg tcattctaga gtttaggtga gtaacacaat 2150  
 tacaaagtga aagatacagc tagaaaatac tacaaatccc atagtttttc 2200  
 cattgcccaa ggaagcatca aatacgtatg tttgttcacc tactcttata 2250  
 gtcaatgcgt tcacgtttc agcctaaaaa taatagtctg tccttttagc 2300  
 cagttttcat gtctgcacaa gacctttcaa taggcctttc aaatgataat 2350  
 tcctccagaa aaccagtcta agggtgagga ccccaactct agcctcctct 2400  
 tgtcttgctg tcctctgttt ctctctttct gctttaaatt caataaaagt 2450  
 gacactgagc aaaaaaaaaa aaaaa 2475

<210> 367  
 <211> 402  
 <212> PRT  
 <213> Homo sapiens

<400> 367  
 Met Met Val Ala Leu Arg Gly Ala Ser Ala Leu Leu Val Leu Phe  
 1 5 10 15  
 Leu Ala Ala Phe Leu Pro Pro Pro Gln Cys Thr Gln Asp Pro Ala  
 20 25 30  
 Met Val His Tyr Ile Tyr Gln Arg Phe Arg Val Leu Glu Gln Gly  
 35 40 45  
 Leu Glu Lys Cys Thr Gln Ala Thr Arg Ala Tyr Ile Gln Glu Phe  
 50 55 60  
 Gln Glu Phe Ser Lys Asn Ile Ser Val Met Leu Gly Arg Cys Gln  
 65 70 75  
 Thr Tyr Thr Ser Glu Tyr Lys Ser Ala Val Gly Asn Leu Ala Leu  
 80 85 90  
 Arg Val Glu Arg Ala Gln Arg Glu Ile Asp Tyr Ile Gln Tyr Leu  
 95 100 105  
 Arg Glu Ala Asp Glu Cys Ile Val Ser Glu Asp Lys Thr Leu Ala  
 110 115 120  
 Glu Met Leu Leu Gln Glu Ala Glu Glu Glu Lys Lys Ile Arg Thr  
 125 130 135  
 Leu Leu Asn Ala Ser Cys Asp Asn Met Leu Met Gly Ile Lys Ser  
 140 145 150  
 Leu Lys Ile Val Lys Lys Met Met Asp Thr His Gly Ser Trp Met  
 155 160 165  
 Lys Asp Ala Val Tyr Asn Ser Pro Lys Val Tyr Leu Leu Ile Gly  
 170 175 180  
 Ser Arg Asn Asn Thr Val Trp Glu Phe Ala Asn Ile Arg Ala Phe  
 185 190 195  
 Met Glu Asp Asn Thr Lys Pro Ala Pro Arg Lys Gln Ile Leu Thr  
 200 205 210

Leu	Ser	Trp	Gln	Gly	Thr	Gly	Gln	Val	Ile	Tyr	Lys	Gly	Phe	Leu
				215					220					225
Phe	Phe	His	Asn	Gln	Ala	Thr	Ser	Asn	Glu	Ile	Ile	Lys	Tyr	Asn
				230					235					240
Leu	Gln	Lys	Arg	Thr	Val	Glu	Asp	Arg	Met	Leu	Leu	Pro	Gly	Gly
				245					250					255
Val	Gly	Arg	Ala	Leu	Val	Tyr	Gln	His	Ser	Pro	Ser	Thr	Tyr	Ile
				260					265					270
Asp	Leu	Ala	Val	Asp	Glu	His	Gly	Leu	Trp	Ala	Ile	His	Ser	Gly
				275					280					285
Pro	Gly	Thr	His	Ser	His	Leu	Val	Leu	Thr	Lys	Ile	Glu	Pro	Gly
				290					295					300
Thr	Leu	Gly	Val	Glu	His	Ser	Trp	Asp	Thr	Pro	Cys	Arg	Ser	Gln
				305					310					315
Asp	Ala	Glu	Ala	Ser	Phe	Leu	Leu	Cys	Gly	Val	Leu	Tyr	Val	Val
				320					325					330
Tyr	Ser	Thr	Gly	Gly	Gln	Gly	Pro	His	Arg	Ile	Thr	Cys	Ile	Tyr
				335					340					345
Asp	Pro	Leu	Gly	Thr	Ile	Ser	Glu	Glu	Asp	Leu	Pro	Asn	Leu	Phe
				350					355					360
Phe	Pro	Lys	Arg	Pro	Arg	Ser	His	Ser	Met	Ile	His	Tyr	Asn	Pro
				365					370					375
Arg	Asp	Lys	Gln	Leu	Tyr	Ala	Trp	Asn	Glu	Gly	Asn	Gln	Ile	Ile
				380					385					390
Tyr	Lys	Leu	Gln	Thr	Lys	Arg	Lys	Leu	Pro	Leu	Lys			
				395					400					

<210> 368  
 <211> 2281  
 <212> DNA  
 <213> Homo sapiens

<400> 368  
 gggcgccgc gtactcacta gctgaggtgg cagtgggtcc accaacatgg 50  
 agctctcgca gatgtcggag ctcattggggc tgcgtgtgtt gcttgggctg 100  
 ctggccctga tggcgacggc ggcggtagcg cgggggtggc tgcgcgcggg 150  
 ggaggagagg agcggccggc ccgcctgccaa aaaagcaaat ggatttcac 200  
 ctgacaaaac ttccgggatcc aagaagcaga aacaatatca cggatttcg 250  
 aaggagaagc ctcaacaaca caacttcacc caccgcctcc tggctgcagc 300  
 totgaagagc cacagcggga acatatcttg catggacttt agcagcaatg 350  
 gcaaatacct ggctacctgt gcagatgac gcaccatccg catctggagc 400  
 accaaggact tcctgcagcg agagcaccgc agcatgagag ccaactgtga 450

gctggaaccac gccaccctgg tgcgcttcag ccctgactgc agagccttca 500  
 tcgtctggct ggccaacggg gacaccctcc gtgtcttcaa gatgaccaag 550  
 cgggaggatg ggggctacac cttcacagcc accccagagg acttccctaa 600  
 aaagcacaag gcgcctgtca tcgacattgg cattgttaac acagggaagt 650  
 ttatcatgac tgccctcagt gacaccactg tcctcatctg gaggctgaag 700  
 ggtcaagtgc tgtctacat caacaccaac cagatgaaca acacacacgc 750  
 tgctgtatct ccctgtggca gattttagc ctctgttggc ttaccccag 800  
 atgtgaaggt ttgggaagtc tgctttggaa agaaggggga gttccaggag 850  
 gtggtgcgag ccttcgaact aaagggccac tccgcggctg tgactcgtt 900  
 tgctttctcc aacgactcac ggaggatggc tctgtctcc aaggatggta 950  
 catgaaact gtgggacaca gatgtggaat acaagaagaa gcaggacccc 1000  
 tacttgtga agacagccg ctttgaagag gcggcgggtg ccgcgccgtg 1050  
 ccgcctggcc ctctcccca acgcccaggt cttggccttg gcagtgga 1100  
 gtagtattca tctctacaat acccggcggg gcgagaagga ggagtgttt 1150  
 gagcgggtcc atggcgagt tatcgccaac ttgtccttg acatcactgg 1200  
 ccgctttctg gcctcctgtg gggaccgggc ggtgcggctg ttccacaaca 1250  
 ctctcggcca ccgagccatg gtggaggaga tgcagggccca cctgaagcgg 1300  
 gcctccaacg agagcacccg ccagaggctg cagcagcagc tgaccacaggc 1350  
 ccaagagacc ctgaagagcc tgggtgccct gaagaagtga ctctgggagg 1400  
 gcccggcgca gaggattgag gaggaggat ctggcctcct catggcactg 1450  
 ctgccatctt tctcccag tggaagcctt tcagaaggag tctcctggtt 1500  
 ttcttactg tgccctgct tcttccatt gaaactactc ttgtctactt 1550  
 aggtctctct ctctctgct gctgtgactc ctccctgact agtggccaag 1600  
 gtgctttctt tctcccag ccagtggtt ggaatctgtc cccacctggc 1650  
 actgaggaga atggtagaga ggagaggaga gagagagaga atgtgatttt 1700  
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 ggagactggg atagcttccc atcacagaac tgtgttccat caaaaagaca 1850  
 ctaagggatt tcttctggg cctcagttct atttgaaga tggagaataa 1900  
 tcctctctgt gaactccttg caaagatgat atgaggctaa gagaatatca 1950  
 agtcccacag tctggaagaa aagtagaaaa gagtagtact attgtccaat 2000  
 gtcatgaaag tggtaaaagt gggaaccagt gtgctttgaa accaaattag 2050



aaacacattc cttgggaagg caaagttttc tgggacttga tcatacattt 2100  
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 cctctttttca gttcatcaag ttcacagat atttgagtgc ccactctgtg 2200  
 cccaataaaa tatgagctgg ggattaaaaa aaaaaaaaaa aaaaaaaaaa 2250  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a 2281

<210> 369  
 <211> 447  
 <212> PRT  
 <213> Homo sapiens

<400> 369  
 Met Glu Leu Ser Gln Met Ser Glu Leu Met Gly Leu Ser Val Leu  
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 Leu Gly Leu Leu Ala Leu Met Ala Thr Ala Val Ala Arg Gly  
 20 25 30  
 Trp Leu Arg Ala Gly Glu Glu Arg Ser Gly Arg Pro Ala Cys Gln  
 35 40 45  
 Lys Ala Asn Gly Phe Pro Pro Asp Lys Ser Ser Gly Ser Lys Lys  
 50 55 60  
 Gln Lys Gln Tyr Gln Arg Ile Arg Lys Glu Lys Pro Gln Gln His  
 65 70 75  
 Asn Phe Thr His Arg Leu Leu Ala Ala Ala Leu Lys Ser His Ser  
 80 85 90  
 Gly Asn Ile Ser Cys Met Asp Phe Ser Ser Asn Gly Lys Tyr Leu  
 95 100 105  
 Ala Thr Cys Ala Asp Asp Arg Thr Ile Arg Ile Trp Ser Thr Lys  
 110 115 120  
 Asp Phe Leu Gln Arg Glu His Arg Ser Met Arg Ala Asn Val Glu  
 125 130 135  
 Leu Asp His Ala Thr Leu Val Arg Phe Ser Pro Asp Cys Arg Ala  
 140 145 150  
 Phe Ile Val Trp Leu Ala Asn Gly Asp Thr Leu Arg Val Phe Lys  
 155 160 165  
 Met Thr Lys Arg Glu Asp Gly Gly Tyr Thr Phe Thr Ala Thr Pro  
 170 175 180  
 Glu Asp Phe Pro Lys Lys His Lys Ala Pro Val Ile Asp Ile Gly  
 185 190 195  
 Ile Ala Asn Thr Gly Lys Phe Ile Met Thr Ala Ser Ser Asp Thr  
 200 205 210  
 Thr Val Leu Ile Trp Ser Leu Lys Gly Gln Val Leu Ser Thr Ile  
 215 220 225  
 Asn Thr Asn Gln Met Asn Asn Thr His Ala Ala Val Ser Pro Cys  
 230 235 240

Gly	Arg	Phe	Val	Ala	Ser	Cys	Gly	Phe	Thr	Pro	Asp	Val	Lys	Val
			245						250					255
Trp	Glu	Val	Cys	Phe	Gly	Lys	Lys	Gly	Glu	Phe	Gln	Glu	Val	Val
			260						265					270
Arg	Ala	Phe	Glu	Leu	Lys	Gly	His	Ser	Ala	Ala	Val	His	Ser	Phe
			275						280					285
Ala	Phe	Ser	Asn	Asp	Ser	Arg	Arg	Met	Ala	Ser	Val	Ser	Lys	Asp
			290						295					300
Gly	Thr	Trp	Lys	Leu	Trp	Asp	Thr	Asp	Val	Glu	Tyr	Lys	Lys	Lys
			305						310					315
Gln	Asp	Pro	Tyr	Leu	Leu	Lys	Thr	Gly	Arg	Phe	Glu	Glu	Ala	Ala
			320						325					330
Gly	Ala	Ala	Pro	Cys	Arg	Leu	Ala	Leu	Ser	Pro	Asn	Ala	Gln	Val
			335						340					345
Leu	Ala	Leu	Ala	Ser	Gly	Ser	Ser	Ile	His	Leu	Tyr	Asn	Thr	Arg
			350						355					360
Arg	Gly	Glu	Lys	Glu	Glu	Cys	Phe	Glu	Arg	Val	His	Gly	Glu	Cys
			365						370					375
Ile	Ala	Asn	Leu	Ser	Phe	Asp	Ile	Thr	Gly	Arg	Phe	Leu	Ala	Ser
			380						385					390
Cys	Gly	Asp	Arg	Ala	Val	Arg	Leu	Phe	His	Asn	Thr	Pro	Gly	His
			395						400					405
Arg	Ala	Met	Val	Glu	Glu	Met	Gln	Gly	His	Leu	Lys	Arg	Ala	Ser
			410						415					420
Asn	Glu	Ser	Thr	Arg	Gln	Arg	Leu	Gln	Gln	Gln	Leu	Thr	Gln	Ala
			425						430					435
Gln	Glu	Thr	Leu	Lys	Ser	Leu	Gly	Ala	Leu	Lys	Lys			
			440						445					

<210> 370  
 <211> 1415  
 <212> DNA  
 <213> Homo sapiens

<400> 370  
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 catctaagca ggcagtgttt tgccttcacc ccaagtgacc atgagagggtg 100  
 ccacgcgagt ctcaatcatg ctccctcctag taactgtgtc tgactgtgct 150  
 gtgatcacag gggcctgtga gcgggatgtc cagtgtgggg caggcacctg 200  
 ctgtgccaac agcctgtggc ttcgagggct gcggatgtgc accccgctgg 250  
 ggcgggaagg cgaggagtgc caccocgcga gccacaaggt cccctctctc 300  
 aggaaacgca agcaccacac ctgtcctgtc ttgcccaacc tgctgtgctc 350  
 caggttcccg gacgcgaggt accgctgctc catggacttg aagaacatca 400



His Thr Cys Pro Cys Leu Pro Asn Leu Leu Cys Ser Arg Phe Pro  
80 85

Asp Gly Arg Tyr Arg Cys Ser Met Asp Leu Lys Asn Ile Asn Phe  
95 100 105

<210> 372

<211> 1281

<212> DNA

<213> Homo sapiens

<400> 372

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gaaatgtctt tctccagga cccaagtctt ttcaccatgg gtagtggtgc 100  
cattgggtgca ggagccctgg gggctgtgct cttggcattg ctgcttgcca 150  
acacagacgt gtttctgtcc aagcccaga aagcgccctt ggagtacctg 200  
gaggatatag acctgaaaa acctggagaag gaaccaagga ctttcaaagc 250  
aaaggagcta tgggaaaaaa atggagctgt gattatggcc gtgcggaggc 300  
caggctgttt cctctgtcga gaggaagctg cggatctgtc ctccctgaaa 350  
agcatgttgg accagctggg cgtccccctc tatgcagtgg taaaggagca 400  
catcaggact gaagtgaagg atttccagcc ttatttcaaa ggagaaatct 450  
tctcggtatga aaagaaaaag ttctatggct cacaaaggcg gaagatgatg 500  
tttatgggat ttatcgtctt gggagtgtgg tacaactctt tccgagcctg 550  
gaacggaggc ttctctgga accctggaagg agaaggcttc atccttgggg 600  
gagtttttgt ggtgggatca ggaagcagg gcattcttct tgagcaccga 650  
gaaaaagaat ttggagacaa agtaaaccta ctttctgttc tggaagctgc 700  
taagatgac aaaccacaga ctttggcctc agagaaaaaa tgattgtgtg 750  
aaactgccca gctcagggtt aaccagggac attcacctgt gttcatggga 800  
tgtattgttt ccaactgtgt cctaaggag tgagaaaccc atttatactc 850  
tactctcagt atggattatt aatgtatctt aatattctgt ttaggccacc 900  
taaggcaaaa tagcccaaaa acaagactga caaaaatctg aaaaactaat 950  
gaggattatt aagctaaaac ctgggaataa ggaggcttaa aattgactgc 1000  
caggctgggt gcagtggctc acacctgtaa tcccagcact ttgggaggcc 1050  
aaggtagca agtcacttga ggtcgggagt tcgagaccag cctgagcaac 1100  
atggcgaaac ccgtctcta ctaaaaatac aaaaatcacc cgggtgtggt 1150  
ggcaggcacc ttagtccca gctacccggg aggctgaggc aggagaatca 1200  
cttgaacctg ggaggtggag gttcgggtga gctgagatca caccactgta 1250  
ttccagctg ggtgactgag actctaacta a 1281

<210> 373  
 <211> 229  
 <212> PRT  
 <213> Homo sapiens

<400> 373

Met	Ser	Phe	Leu	Gln	Asp	Pro	Ser	Phe	Phe	Thr	Met	Gly	Met	Trp
1				5						10				15
Ser	Ile	Gly	Ala	Gly	Ala	Leu	Gly	Ala	Ala	Ala	Leu	Ala	Leu	Leu
			20						25					30
Leu	Ala	Asn	Thr	Asp	Val	Phe	Leu	Ser	Lys	Pro	Gln	Lys	Ala	Ala
				35					40					45
Leu	Glu	Tyr	Leu	Glu	Asp	Ile	Asp	Leu	Lys	Thr	Leu	Glu	Lys	Glu
				50					55					60
Pro	Arg	Thr	Phe	Lys	Ala	Lys	Glu	Leu	Trp	Glu	Lys	Asn	Gly	Ala
				65					70					75
Val	Ile	Met	Ala	Val	Arg	Arg	Pro	Gly	Cys	Phe	Leu	Cys	Arg	Glu
				80					85					90
Glu	Ala	Ala	Asp	Leu	Ser	Ser	Leu	Lys	Ser	Met	Leu	Asp	Gln	Leu
				95					100					105
Gly	Val	Pro	Leu	Tyr	Ala	Val	Val	Lys	Glu	His	Ile	Arg	Thr	Glu
				110					115					120
Val	Lys	Asp	Phe	Gln	Pro	Tyr	Phe	Lys	Gly	Glu	Ile	Phe	Leu	Asp
				125					130					135
Glu	Lys	Lys	Lys	Phe	Tyr	Gly	Pro	Gln	Arg	Arg	Lys	Met	Met	Phe
				140					145					150
Met	Gly	Phe	Ile	Arg	Leu	Gly	Val	Trp	Tyr	Asn	Phe	Phe	Arg	Ala
				155					160					165
Trp	Asn	Gly	Gly	Phe	Ser	Gly	Asn	Leu	Glu	Gly	Glu	Gly	Phe	Ile
				170					175					180
Leu	Gly	Gly	Val	Phe	Val	Val	Gly	Ser	Gly	Lys	Gln	Gly	Ile	Leu
				185					190					195
Leu	Glu	His	Arg	Glu	Lys	Glu	Phe	Gly	Asp	Lys	Val	Asn	Leu	Leu
				200					205					210
Ser	Val	Leu	Glu	Ala	Ala	Lys	Met	Ile	Lys	Pro	Gln	Thr	Leu	Ala
				215					220					225

Ser Glu Lys Lys

<210> 374  
 <211> 744  
 <212> DNA  
 <213> Homo sapiens

<400> 374

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 caaagacgcc cgggccaggt gcccctgc aggtgccctt gcccgagat 100

gcggtaggag gggcgagcgc gagaagcccc ttctctggcg ctgccaaccc 150  
gccaccacgc ccatggcgaa ccccgggctg gggctgcttc tggcgctggg 200  
cctgcgcttc ctgctggccc gctggggcgc agcctggggg caaatacaga 250  
ccacttctgc aaatgagaat agcactgttt tgccttcctc caccagctcc 300  
agctccgatg gcaacctgcg tccggaagcc atcactgcta tcatcggtgt 350  
cttctccctc ttggctgcct tgctcctggc tgtggggctg gcaactgttg 400  
tgcggaagct tcgggagaag cggcagacgg agggcaccta ccggcccagt 450  
agcgaggagc agttctccca tgcagccgag gcccgggccc ctcaggactc 500  
caaggagacg gtgcagggct gcctgcccac ctaggteccc tctctcgcat 550  
ctgtctccct tcattgctgt gtgaccttgg ggaaggagc tgcctctctc 600  
gggcagtcag atccaccacg tgcttaatat cagggaagaa ggtacttcaa 650  
agactctgcc cctgaggtca agagaggatg gggctattca cttttatata 700  
tttatataaa attagtagtg agatgtaaaa aaaaaaaaaa aaaa 744

<210> 375  
<211> 123  
<212> PRT  
<213> Homo sapiens

<400> 375  
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Phe Leu Leu Ala Arg Trp Gly Arg Ala Trp Gly Gln Ile Gln Thr  
20 25 30  
Thr Ser Ala Asn Glu Asn Ser Thr Val Leu Pro Ser Ser Thr Ser  
35 40 45  
Ser Ser Ser Asp Gly Asn Leu Arg Pro Glu Ala Ile Thr Ala Ile  
50 55 60  
Ile Val Val Phe Ser Leu Leu Ala Ala Leu Leu Ala Val Gly  
65 70 75  
Leu Ala Leu Leu Val Arg Lys Leu Arg Glu Lys Arg Gln Thr Glu  
80 85 90  
Gly Thr Tyr Arg Pro Ser Ser Glu Glu Gln Phe Ser His Ala Ala  
95 100 105  
Glu Ala Arg Ala Pro Gln Asp Ser Lys Glu Thr Val Gln Gly Cys  
110 115 120  
Leu Pro Ile

<210> 376  
<211> 713  
<212> DNA  
<213> Homo sapiens

<400> 376  
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aacatttggg ttttgggatt ttaattttca aacacagcag aatgacattt 100  
tttctgtcac tattattatt gttggtagt gaagctattt ggagatccaa 150  
ttcaggaagc aacacattgg agaatggcta cttctatca agaaataaag 200  
agaaccacag tcaaccaca caatcatctt tagaagacag tgtgactcct 250  
accaagctg tcaaaaccac aggcaagggc atagttaaag gacggaatct 300  
tgactcaaga gggtaattc ttggtgctga agcctggggc aggggtgtaa 350  
agaaaaacac ttagattcaa tgattgtaaa ttttaaggcaa atacacatat 400  
tagtattacc ttagtgtaat gtatccctgt catatataca ataaggtgaa 450  
attataagta ccctatgcag ttggctggac agttctaaat tggactttat 500  
taatttttaa aatcagtaac tgatttatca ctggctatgt gcttagatct 550  
acaggagatc atataatttg atacaaataa aagaaaagtg ttctctcccc 600  
ttacagaatt gacattttta atgcgataca gttagaatag gaaatatgac 650  
attagaaagg aagaatgaca gggagaaagg aaagaaggga aaatgttgc 700  
aaggaaaaaa aaa 713

<210> 377  
<211> 90  
<212> PRT  
<213> Homo sapiens

<400> 377  
Met Thr Phe Phe Leu Ser Leu Leu Leu Leu Val Cys Glu Ala  
1 5 10  
Ile Trp Arg Ser Asn Ser Gly Ser Asn Thr Leu Glu Asn Gly Tyr  
20 25 30  
Phe Leu Ser Arg Asn Lys Glu Asn His Ser Gln Pro Thr Gln Ser  
35 40 45  
Ser Leu Glu Asp Ser Val Thr Pro Thr Lys Ala Val Lys Thr Thr  
50 55 60  
Gly Lys Gly Ile Val Lys Gly Arg Asn Leu Asp Ser Arg Gly Leu  
65 70 75  
Ile Leu Gly Ala Glu Ala Trp Gly Arg Gly Val Lys Lys Asn Thr  
80 85 90

<210> 378  
<211> 3265  
<212> DNA  
<213> Homo sapiens

<400> 378  
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cctcttagtt ctgtgctgc tgcaccagtc aaatacttcc ttcattaagc 100  
 tgaataataa tggctttgaa gatattgtca ttgttataga tcctagtgtg 150  
 ccagaagatg aaaaaataat tgaacaaata gaggatattg tgactacagc 200  
 ttctacgtac ctgtttgaag ccacagaaaa aagatttttt ttcaaaaatg 250  
 tatctatatt aattcctgag aattggaagg aaaatcccta gtacaaaagg 300  
 ccaaaacatg aaaaccataa acatgctgat gttatagtgt caccacctac 350  
 actcccaggt agagatgaac catacaccaa gcagttcaca gaatgtggag 400  
 agaaaggcga atacattcac ttcacccctg accttctact tggaaaaaaa 450  
 caaaatgaat atggaccacc aggcaaaactg tttgtccatg agtgggctca 500  
 cctccggtgg ggagtgttg atgagtacaa tgaagatcag cctttctacc 550  
 gtgctaagtc aaaaaaaatc gaagcaacaa ggtgttccgc aggtatctct 600  
 ggtagaataa gagtttataa gtgtcaagga ggcagctgtc ttagtagagc 650  
 atgcagaatt gattctacaa caaaactgta tggaaaagat tgtaattct 700  
 ttocgtataa agtacaacaa gaaaaagcat ccataatgtt tatgcaaagt 750  
 attgattctg ttgttgaatt ttgtaacgaa aaaaccata atcaagaagc 800  
 tccaagccta caaacataa agtgcaattt tagaagtaca tgggagggtg 850  
 ttagcaattc tgaggatttt aaaaacacca taccctggt gacaccacct 900  
 cctccacctg tcttctcatt gctgaagato agtcaaagaa ttgtgtgctt 950  
 agttcttgat aagtctggaa gcatgggggg taaggaccgc ctaaatcgaa 1000  
 tgaatcaagc agcaaaacat ttctgtctgc agactgttga aaatggatcc 1050  
 tgggtgggga tggttcactt tgatagtact gccactattg taaataagct 1100  
 aatccaaata aaaagcagtg atgaaagaaa cacactcatg gcaggattac 1150  
 ctacatatcc tctgggagga acttccatct gctctggaat taaatatgca 1200  
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 gctgctgact gatggggagg ataacactgc aagttcttgt attgatgaag 1300  
 tgaaacaaag tggggccatt gttoatttta ttgctttggg aagagctgct 1350  
 gatgaagcag taatagagat gagcaagata acaggaggaa gtcattttta 1400  
 tgtttcagat gaagctcaga acaatggcct cattgatgct tttggggctc 1450  
 ttacatcagg aaatactgat ctctcccaga agtcccttca gctcgaaagt 1500  
 aagggattaa cactgaatag taatgcctgg atgaacgaca ctgtcataat 1550  
 tgatagtaca gtgggaaagg acacgttctt tctcatcaca tggaaacgct 1600  
 tgccctccag tatttctctc tgggatccca gtggaacaa atgggaaaat 1650



ttcacagtgg atgcaacttc aaaaatggcc tatctcagta ttccaggaac 1700  
 tgcaaagggt ggcacttggg catacaatct tcaagccaaa gcgaaccagg 1750  
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 ccaatcacag tgaatgctaa aatgaataag gacgtaaaca gtttccccag 1850  
 cccaatgatt gtttacgcag aaattctaca aggatattga cctgttcttg 1900  
 gagccaatgt gactgctttc attgaatcac agaattggaca tacagaagtt 1950  
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 agtctactcc aggtatttta cagcatatac agaaaaatggc agatatagct 2050  
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 caagtcccaa gccttccctt gcctgaccaa taccaccaa gtcaaatcac 2300  
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 caccaggaga taattttgat gttggaaaag ttcaacgta tatcataaga 2400  
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 attgccatta aaagtataga taaaagcaat ttgacatcaa aagtatccaa 2600  
 cattgcacaa gtaactttgt ttatccctca agcaaatcct gatgacattg 2650  
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 aaatcttcaa gtagacctag aagagagttt taaaaaaca aacaattgaa 2850  
 gtaaaggata tttctgaatc ttaaaattca tccatgtgt gatcataaac 2900  
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 aacactcatg gatattgtaa aactgtcaag attaaaaatt aatagtttca 3000  
 tttatttgtt attttatttg taagaaatag tgatgaacaa agatcctttt 3050  
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 gatatttcaa attgcatcaa gaaattaaaa tcattctatct gagtagtcaa 3150  
 aatacaagta aaggagagca aataacaac atttgaaaa aaaaaaaaaa 3200  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3250

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<210> 379  
<211> 919  
<212> PRT  
<213> Homo sapiens

<400> 379

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Leu	His	Gln	Ser	Asn	Thr	Ser	Phe	Ile	Lys	Leu	Asn	Asn	Asn	Gly	20	25	30	
Phe	Glu	Asp	Ile	Val	Ile	Val	Ile	Asp	Pro	Ser	Val	Pro	Glu	Asp	35	40	45	
Glu	Lys	Ile	Ile	Glu	Gln	Ile	Glu	Asp	Met	Val	Thr	Thr	Ala	Ser	50	55	60	
Thr	Tyr	Leu	Phe	Glu	Ala	Thr	Glu	Lys	Arg	Phe	Phe	Phe	Lys	Asn	65	70	75	
Val	Ser	Ile	Leu	Ile	Pro	Glu	Asn	Trp	Lys	Glu	Asn	Pro	Gln	Tyr	80	85	90	
Lys	Arg	Pro	Lys	His	Glu	Asn	His	Lys	His	Ala	Asp	Val	Ile	Val	95	100	105	
Ala	Pro	Pro	Thr	Leu	Pro	Gly	Arg	Asp	Glu	Pro	Tyr	Thr	Lys	Gln	110	115	120	
Phe	Thr	Glu	Cys	Gly	Glu	Lys	Gly	Glu	Tyr	Ile	His	Phe	Thr	Pro	125	130	135	
Asp	Leu	Leu	Leu	Gly	Lys	Lys	Gln	Asn	Glu	Tyr	Gly	Pro	Pro	Gly	140	145	150	
Lys	Leu	Phe	Val	His	Glu	Trp	Ala	His	Leu	Arg	Trp	Gly	Val	Phe	155	160	165	
Asp	Glu	Tyr	Asn	Glu	Asp	Gln	Pro	Phe	Tyr	Arg	Ala	Lys	Ser	Lys	170	175	180	
Lys	Ile	Glu	Ala	Thr	Arg	Cys	Ser	Ala	Gly	Ile	Ser	Gly	Arg	Asn	185	190	195	
Arg	Val	Tyr	Lys	Cys	Gln	Gly	Gly	Ser	Cys	Leu	Ser	Arg	Ala	Cys	200	205	210	
Arg	Ile	Asp	Ser	Thr	Thr	Lys	Leu	Tyr	Gly	Lys	Asp	Cys	Gln	Phe	215	220	225	
Phe	Pro	Asp	Lys	Val	Gln	Thr	Glu	Lys	Ala	Ser	Ile	Met	Phe	Met	230	235	240	
Gln	Ser	Ile	Asp	Ser	Val	Val	Glu	Phe	Cys	Asn	Glu	Lys	Thr	His	245	250	255	
Asn	Gln	Glu	Ala	Pro	Ser	Leu	Gln	Asn	Ile	Lys	Cys	Asn	Phe	Arg	260	265	270	
Ser	Thr	Trp	Glu	Val	Ile	Ser	Asn	Ser	Glu	Asp	Phe	Lys	Asn	Thr				

	275		280		285
Ile Pro Met Val Thr	Pro Pro Pro Pro	Pro Val Phe Ser Leu	Leu		
	290		295		300
Lys Ile Ser Gln Arg	Ile Val Cys Leu	Val Leu Asp Lys Ser	Gly		
	305		310		315
Ser Met Gly Gly Lys	Asp Arg Leu Asn	Arg Met Asn Gln Ala	Ala		
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Lys His Phe Leu Leu	Gln Thr Val Glu	Asn Gly Ser Trp Val	Gly		
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Met Val His Phe Asp	Ser Thr Ala Thr	Ile Val Asn Lys Leu	Ile		
	350		355		360
Gln Ile Lys Ser Ser	Asp Glu Arg Asn	Thr Leu Met Ala Gly	Leu		
	365		370		375
Pro Thr Tyr Pro Leu	Gly Gly Thr Ser	Ile Cys Ser Gly Ile	Lys		
	380		385		390
Tyr Ala Phe Gln Val	Ile Gly Glu Leu	His Ser Gln Leu Asp	Gly		
	395		400		405
Ser Glu Val Leu Leu	Leu Thr Asp Gly	Glu Asp Asn Thr Ala	Ser		
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Ser Cys Ile Asp Glu	Val Lys Gln Ser	Gly Ala Ile Val His	Phe		
	425		430		435
Ile Ala Leu Gly Arg	Ala Ala Asp Glu	Ala Val Ile Glu Met	Ser		
	440		445		450
Lys Ile Thr Gly Gly	Ser His Phe Tyr	Val Ser Asp Glu Ala	Gln		
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	470		475		480
Thr Asp Leu Ser Gln	Lys Ser Leu Gln	Leu Glu Ser Lys Gly	Leu		
	485		490		495
Thr Leu Asn Ser Asn	Ala Trp Met Asn	Asp Thr Val Ile Ile	Asp		
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Ser Thr Val Gly Lys	Asp Thr Phe Phe	Leu Ile Thr Trp Asn	Ser		
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Leu Pro Pro Ser Ile	Ser Leu Trp Asp	Pro Ser Gly Thr Ile	Met		
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Glu Asn Phe Thr Val	Asp Ala Thr Ser	Lys Met Ala Tyr Leu	Ser		
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Ile Pro Gly Thr Ala	Lys Val Gly Thr	Trp Ala Tyr Asn Leu	Gln		
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Ala Ala Asn Ser Ser	Val Pro Pro Ile	Thr Val Asn Ala Lys	Met		

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Asp	Gln	Tyr	Pro	Pro	Ser	Gln	Ile	Thr	Asp	Leu	Asp	Ala	Thr	Val	
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Ile	Phe	Ile	Ala	Ile	Lys	Ser	Ile	Asp	Lys	Ser	Asn	Leu	Thr	Ser	
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Thr	Pro	Asp	Lys	Ser	His	Asn	Ser	Gly	Val	Asn	Ile	Ser	Thr	Leu	
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 Pro Arg Ala Asn Ser Pro Thr Gly Lys Glu Gly Tyr Gln Ala Val  
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 Leu Gln Glu Trp Glu Glu Gln His Arg Asn Tyr Val Ser Ser Leu  
 65 70 75  
 Lys Arg Gln Ile Ala Gln Leu Lys Glu Glu Leu Gln Glu Arg Ser  
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Leu	Gly	Leu	Asp	Arg	Ser	Pro	Pro	Glu	Lys	Thr	Gln	Ala	Asp	Leu	
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Gly	Val	Lys	Leu	Ala	Thr	Glu	Tyr	Ala	Ala	Val	Pro	Phe	Asp	Ser	
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Phe	Thr	Leu	Gln	Lys	Val	Tyr	Gln	Leu	Glu	Thr	Gly	Leu	Thr	Arg	
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His	Pro	Glu	Glu	Lys	Pro	Val	Arg	Lys	Asp	Lys	Arg	Asp	Glu	Leu	
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Val	Glu	Ala	Ile	Glu	Ser	Ala	Leu	Glu	Thr	Leu	Asn	Asn	Pro	Ala	
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Glu	Asn	Ser	Pro	Asn	His	Arg	Pro	Tyr	Thr	Ala	Ser	Asp	Phe	Ile	
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Glu	Gly	Ile	Tyr	Arg	Thr	Glu	Arg	Asp	Lys	Gly	Thr	Leu	Tyr	Glu	
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Leu	Thr	Phe	Lys	Gly	Asp	His	Lys	His	Glu	Phe	Lys	Arg	Leu	Ile	
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Met	Cys	Ile	Glu	Gln	Asp	Gly	Arg	Val	His	Leu	Thr	Val	Val	Tyr	
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Phe	Gly	Lys	Glu	Glu	Ile	Asn	Glu	Val	Lys	Gly	Ile	Leu	Glu	Asn	
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Thr	Ser	Lys	Ala	Ala	Asn	Phe	Arg	Asn	Phe	Thr	Phe	Ile	Gln	Leu	
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Asn	Gly	Glu	Phe	Ser	Arg	Gly	Lys	Gly	Leu	Asp	Val	Gly	Ala	Arg	
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Ile	Tyr	Phe	Thr	Ser	Glu	Phe	Leu	Asn	Thr	Cys	Arg	Leu	Asn	Thr	
				365					370					375	
Gln	Pro	Gly	Lys	Lys	Val	Phe	Tyr	Pro	Val	Leu	Phe	Ser	Gln	Tyr	
				380					385					390	
Asn	Pro	Gly	Ile	Ile	Tyr	Gly	His	His	Asp	Ala	Val	Pro	Pro	Leu	
				395					400					405	



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 Ile Gly Gly Phe Asp Leu Asp Ile Lys Gly Trp Gly Gly Glu Asp  
 440 445 450  
 Val His Leu Tyr Arg Lys Tyr Leu His Ser Asn Leu Ile Val Val  
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 Arg Thr Pro Val Arg Gly Leu Phe His Leu Trp His Glu Lys Arg  
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 Cys Met Asp Glu Leu Thr Pro Glu Gln Tyr Lys Met Cys Met Gln  
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 Ser Lys Ala Met Asn Glu Ala Ser His Gly Gln Leu Gly Met Leu  
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ctcttcaaa cgatggtagc tttctccatg agaaaagttc ccaacagaga 200

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Ile Arg Thr Ala Leu Gly Asp Lys Ala Tyr Ala Trp Asp Thr Asn  
35 40 45  
Glu Glu Tyr Leu Phe Lys Ala Met Val Ala Phe Ser Met Arg Lys  
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Val Pro Asn Arg Glu Ala Thr Glu Ile Ser His Val Leu Leu Cys  
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Asn Val Thr Gln Arg Val Ser Phe Trp Phe Val Val Thr Asp Pro  
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Ser Lys Asn His Thr Leu Pro Ala Val Glu Val Gln Ser Ala Ile  
95 100 105  
Arg Met Asn Lys Asn Arg Ile Asn Asn Ala Phe Phe Leu Asn Asp  
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Gln Thr Leu Glu Phe Leu Lys Ile Pro Ser Thr Leu Ala Pro Pro  
125 130 135  
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140 145 150  
Phe Cys Ile Ile Ile Val Ala Ile Ala Leu Leu Ile Leu Ser Gly  
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Ile Trp Gln Arg Arg Arg Lys Asn Lys Glu Pro Ser Glu Val Asp  
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Pro Ser

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 ccacattctc aattaaaagg tgagctaagc ctctcgggtg tttctgatta 1250  
 acagtaaate ctaaaattca actgttaaat gacattttta tttttatgtc 1300  
 tctccttaac tatgagacac atcttgtttt actgaatttc tttcaatatt 1350  
 ccaggtgata gatttttctc g 1371

<210> 389

<211> 215

<212> PRF

<213> Homo sapiens

<400> 389

Met	Tyr	Gly	Lys	Ser	Ser	Thr	Arg	Ala	Val	Leu	Leu	Leu	Leu	Gly
1					5				10					15



<210> 392  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 392  
 gagaggactg cgggagtttg ggacctttgt gcagacgtgc tcatg 45

<210> 393  
 <211> 471  
 <212> DNA  
 <213> Homo sapiens

<400> 393  
 gcatttttgt ctgtgctccc tgatcttcag gtcaccacca tgaagtcttt 50  
 agcagtcctg gtactcttgg gagtttccat cttcttggtc tctgcccaga 100  
 atccgacaac agctgctcca gctgacacgt atccagctac tggctcctgct 150  
 gatgatgaag cccctgatgc tgaaccact gctgctgcaa ccactgcgac 200  
 cactgctgct cctaccactg caaccacgcg tgcttctacc actgctcgta 250  
 aagacattcc agttttaccc aaatgggttg gggatctccc gaatggtaga 300  
 gtgtgtccct gagatggaat cagcttgagt cttctgcaat tggtcacaac 350  
 tattcatgct tctgtgatt tcatccaact acttaccttg cctacgatat 400  
 cccctttatc tctaatacgt ttattttctt tcaaataaaa aataactatg 450  
 agcaacataa aaaaaaaaaa a 471

<210> 394  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

<400> 394  
 Met Lys Phe Leu Ala Val Leu Val Leu Leu Gly Val Ser Ile Phe  
 1 5 10 15  
 Leu Val Ser Ala Gln Asn Pro Thr Thr Ala Ala Pro Ala Asp Thr  
 20 25 30  
 Tyr Pro Ala Thr Gly Pro Ala Asp Asp Glu Ala Pro Asp Ala Glu  
 35 40 45  
 Thr Thr Ala Ala Thr Thr Thr Ala Thr Thr Ala Ala Pro Thr Thr  
 50 55 60  
 Ala Thr Thr Ala Ala Ser Thr Thr Ala Arg Lys Asp Ile Pro Val  
 65 70 75  
 Leu Pro Lys Trp Val Gly Asp Leu Pro Asn Gly Arg Val Cys Pro  
 80 85 90

<210> 395  
 <211> 25

<212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe

<400> 395  
 gctccctgat cttcatgtca ccacc 25

<210> 396  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 396  
 cagggacaca ctctaccatt cgggag 26

<210> 397  
 <211> 42  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 397  
 ccatctttct ggtctctgcc cagaatccga caacagctgc tc 42

<210> 398  
 <211> 907  
 <212> DNA  
 <213> Homo sapiens

<400> 398  
 ggactctgaa ggtccaagc agctgctgag gccccaagg aagtgggttc 50  
 aaccttggac ccctaggggt ctggatttgc tggttaacaa gataacctga 100  
 gggcaggacc ccatagggga atgctaccto ctgcccttcc acctgccctg 150  
 gtgttcacgg tggcctggtc cctccttgcc gagagagtgt cctgggtcag 200  
 ggacgcagag gacgctcaca gactccagcc ctttgttacc gagaggacac 250  
 ttggcaaggt ccagcgatgg tccggagtcc acacacagac tggcggcagg 300  
 gcaggagggg gacagtctctg ttgtgcttgg ttggacagta agagggtctt 350  
 ggccagtcga ggggtggggg cggcaaaactc cataaagaac cacaggggtct 400  
 gggccccggc cacagagtea totgccagc tcctctgctg ctggccagtg 450  
 ggagtggcac gaggtggggc tttgtgccag taaaaccaca ggctggattt 500  
 gcctcggggc catggtccct gtctagggca gcaattctca accttcttgc 550  
 tctcaggacc ccaaagagct ttcattgtat ctattgattt ttaccacatt 600  
 agcaattaaa actgagaaat gggccgggca cggtggtcta cgctgtaat 650

cccagcactt tgggagggcg aggcgggtgg atcacctgag atcaggagtt 700  
 caagaccagc ctggccaaca tgggtgaaacc ttgtctacta aaaatacaaa 750  
 aaattagcca ggcacagtgg tgtgcactgg tagtcccagt tactcgggag 800  
 gctgaggcag gaaaatcgct tgaaccacagg aggcggacgt tgcggtgagc 850  
 cgagatcgcg ccgctgattc cagcctgggc gacaagagtg agactccatc 900  
 tcacaca 907

<210> 399  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 399  
 Met Leu Pro Pro Ala Leu Pro Pro Ala Leu Val Phe Thr Val Ala  
 1 5 10 15  
 Trp Ser Leu Leu Ala Glu Arg Val Ser Trp Val Arg Asp Ala Glu  
 20 25 30  
 Asp Ala His Arg Leu Gln Pro Phe Val Thr Glu Arg Thr Leu Gly  
 35 40 45  
 Lys Val Gln Arg Trp Ser Gly Val His Thr Gln Thr Gly Gly Arg  
 50 55 60  
 Ala Gly Gly Gly Gln Phe Cys Cys Ala Trp Leu Asp Ser Lys Arg  
 65 70 75  
 Val Leu Ala Ser Pro Gly Trp Gly Ala Ala Asn Ser Ile Lys Asn  
 80 85 90  
 Gln Arg Val Trp Ala Pro Ala Thr Glu Ser Ser Ala Gln Leu Leu  
 95 100 105  
 Cys Cys Trp Pro Val Gly Val Ala Arg Gly Gly Ala Leu Cys Gln  
 110 115 120

<210> 400  
 <211> 893  
 <212> DNA  
 <213> Homo sapiens

<400> 400  
 gtcattgccag tgctctctct gtgcctgtctc tgggccttgg caatgggtgac 50  
 ccggcctgcc tcagcggccc ccatgggcggg ccagaaactg gcacagcatg 100  
 aggagctgac cctgtctctc catgggaccc tgcagctggg ccaggccctc 150  
 aacggtgtgt acaggaccac ggagggacgg ctgacaaaag ccaggaacag 200  
 cctgggtctc tatggccgca caatagaact cctggggcag gaggtcagcc 250  
 ggggcccggga tgcagcccag gaacttcggg caagcctgtt ggagactcag 300  
 atggaggagg atattctgca gctgcaggca gagccacag ctgaggtgct 350  
 gggggagggtg gcccaggcac agaaggtgct acgggacagc gtgcagcggc 400



tagaagtcaca gctgaggagc gcctggctgg gcctgccta ccgagaattt 450  
gaggtcttaa aggtctcacg tgacaagcag agccacatcc tatgggcctt 500  
cacaggccac gtgcagcggc agaggcggga gatggtggca cagcagcatc 550  
ggctgcgaca gatccaggag agactccaca cagcggcgct cccagcctga 600  
atctgcctgg atggaactga ggaccaatca tgctgcaagg aacacttcca 650  
cgccccgtga ggccccctgt caggaggagg ctgcctgttc actgggatca 700  
gccagggcgc cgggccccac ttctgagcac agagcagaga cagacgcagg 750  
cggggacaaa ggcagaggat gtagcccat tggggagggg tggagggaag 800  
acatgtaccc tttoatgcct acacacccct cattaaagca gagtogtggc 850  
atttcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 893

<210> 401  
<211> 198  
<212> PRT  
<213> Homo sapiens

<400> 401  
Met Pro Val Pro Ala Leu Cys Leu Leu Trp Ala Leu Ala Met Val  
1 5 10 15  
Thr Arg Pro Ala Ser Ala Ala Pro Met Gly Gly Pro Glu Leu Ala  
20 25 30  
Gln His Glu Glu Leu Thr Leu Leu Phe His Gly Thr Leu Gln Leu  
35 40 45  
Gly Gln Ala Leu Asn Gly Val Tyr Arg Thr Thr Glu Gly Arg Leu  
50 55 60  
Thr Lys Ala Arg Asn Ser Leu Gly Leu Tyr Gly Arg Thr Ile Glu  
65 70 75  
Leu Leu Gly Gln Glu Val Ser Arg Gly Arg Asp Ala Ala Gln Glu  
80 85 90  
Leu Arg Ala Ser Leu Leu Glu Thr Gln Met Glu Glu Asp Ile Leu  
95 100 105  
Gln Leu Gln Ala Glu Ala Thr Ala Glu Val Leu Gly Glu Val Ala  
110 115 120  
Gln Ala Gln Lys Val Leu Arg Asp Ser Val Gln Arg Leu Glu Val  
125 130 135  
Gln Leu Arg Ser Ala Trp Leu Gly Pro Ala Tyr Arg Glu Phe Glu  
140 145 150  
Val Leu Lys Ala His Ala Asp Lys Gln Ser His Ile Leu Trp Ala  
155 160 165  
Leu Thr Gly His Val Gln Arg Gln Arg Arg Glu Met Val Ala Gln  
170 175 180  
Gln His Arg Leu Arg Gln Ile Gln Glu Arg Leu His Thr Ala Ala

## Leu Pro Ala

&lt;210&gt; 402

&lt;211&gt; 1915

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 402

ggcaacatgg ctcagcaggc ttgccccaga gccatggcaa agaatggact 50  
 tgtaatttgc atcctgggtga tcaccttact cctggaccag accaccagcc 100  
 acacatccag attaaaagcc aggaagcaca gcaaacgtcg agtgagagac 150  
 aaggatggag atctgaagac tcaaattgaa aagctctgga cagaagtcaa 200  
 tgccttgaag gaaattcaag ccctgcagac agtctgtctc cgaggcacta 250  
 aagttcaca gaaatgctac cttgtctcag aaggtttgaa gcatttccat 300  
 gaggccaatg aagactgcat ttccaaagga ggaatcctgg ttatcccag 350  
 gaactccgac gaaatcaacg ccctccaaga ctatggtaaa aggagcctgc 400  
 cagggtgcaa tgacttttgg ctgggcatca atgacatggt cacggaaggc 450  
 aagtttgttg acgtcaacgg aatcgctatc tccttcccca actgggaccg 500  
 tgcacagcct aacggtggca agcgagaaaa ctgtgtcctg ttctcccaat 550  
 cagctcaggg caagtggagt gatgaggcct gtcgcagcag caagagatac 600  
 atatgcgagt tcaccatccc taaataggtc ttctcccaat gtgtcctcca 650  
 agcaagattc atcataactt ataggttcat gatctctaag atcaagtaaa 700  
 aatcataatt ttactttatt aaaaaattgc aacacaagat caatgtccat 750  
 agcaatatga tagcatcagc caattttgct aacacatttc ttggggattt 800  
 tgcccttctt ggggtatagg ggatcagaaa tattgatcca tgtgcacgca 850  
 gataaaatgg cttctgctaa acagactaaa atctttctct ctagtctttc 900  
 tcactgtgac aaaccagtt tgttttcaaa aaatcacagt agcaatgcaa 950  
 ctcatcactc tagaaaagca agcttaggct acotgaaaga ttttcccttg 1000  
 gaagtttagc gtatgtttga ctaacaaaaa ttccctacat cagagactct 1050  
 aggtgctata taatccaaaa acttttcagc ctgttgctca ttctgtccca 1100  
 tgctggcaat aataccttgt cagccatta cccttatttt gaattgtctc 1150  
 atctcctggt gggacttgta tcttgtctgc catatcagaa cacaaccccc 1200  
 tgaagagggt ctgatttgat tttttttttt tottcatgcc tacccttttt 1250  
 ttggaagttt ccagccgcaa tttgaaatga aatgacaagg tgtatatattg 1300

atcaattttc attcccacca ttgcattaca acctctaact taaatgggta 1350  
 accctaaggc atatcaaaga agcagattgc atgataaacg gaaatagaaa 1400  
 aaaagaacct acatttattt tgottttagca tccttactct caccttttat 1450  
 gagattgaga gtggacttac atttcctttt ttacattttc gtatatattat 1500  
 tttttttagc catcattata tgtttaagtc tattatgggc aaccaatctt 1550  
 tggaagctga aaactgaatt taaagaatgc tatottggaa aattgcatac 1600  
 gtctgtgcaa ttttttattc tgcctagtgc tattctgctt gtttaactag 1650  
 attgtacaaa ataacttcat tgcttaatat caaattacaa agtttagact 1700  
 tggaggggaaa tgggcttttt agaagcaaac aattttaaat atattttgtt 1750  
 cttcaaataa atagtgttta aacattgaat gtgttttgtg aacaatatcc 1800  
 cactttgcaa actttaacta cacatgcttg gaattaagtt ttagctgttt 1850  
 tcattgtcca ataataaagc ctgaattctg atcaataaaa aaaaaaaaaa 1900  
 aaaaaaaaaa aaaaa 1915

<210> 403  
 <211> 206  
 <212> PRT  
 <213> Homo sapiens

<400> 403  
 Met Ala Gln Gln Ala Cys Pro Arg Ala Met Ala Lys Asn Gly Leu  
 1 5 10 15  
 Val Ile Cys Ile Leu Val Ile Thr Leu Leu Leu Asp Gln Thr Thr  
 20 25 30  
 Ser His Thr Ser Arg Leu Lys Ala Arg Lys His Ser Lys Arg Arg  
 35 40 45  
 Val Arg Asp Lys Asp Gly Asp Leu Lys Thr Gln Ile Glu Lys Leu  
 50 55 60  
 Trp Thr Glu Val Asn Ala Leu Lys Glu Ile Gln Ala Leu Gln Thr  
 65 70 75  
 Val Cys Leu Arg Gly Thr Lys Val His Lys Lys Cys Tyr Leu Ala  
 80 85 90  
 Ser Glu Gly Leu Lys His Phe His Glu Ala Asn Glu Asp Cys Ile  
 95 100 105  
 Ser Lys Gly Gly Ile Leu Val Ile Pro Arg Asn Ser Asp Glu Ile  
 110 115 120  
 Asn Ala Leu Gln Asp Tyr Gly Lys Arg Ser Leu Pro Gly Val Asn  
 125 130 135  
 Asp Phe Trp Leu Gly Ile Asn Asp Met Val Thr Glu Gly Lys Phe  
 140 145 150  
 Val Asp Val Asn Gly Ile Ala Ile Ser Phe Leu Asn Trp Asp Arg

	155		160		165									
Ala	Gln	Pro	Asn	Gly	Gly	Lys	Arg	Glu	Asn	Cys	Val	Leu	Phe	Ser
				170					175					180
Gln	Ser	Ala	Gln	Gly	Lys	Trp	Ser	Asp	Glu	Ala	Cys	Arg	Ser	Ser
				185					190					195
Lys	Arg	Tyr	Ile	Cys	Glu	Phe	Thr	Ile	Pro	Lys				
				200					205					

<210> 404  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 404  
 cctgggtatc cccaggaact ccgac 25

<210> 405  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 405  
 ctcttgctgc tgcgacaggc ctc 23

<210> 406  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 406  
 cgccctccaa gactatggta aaaggagcct gccaggtgtc aatgac 46

<210> 407  
 <211> 570  
 <212> DNA  
 <213> Homo sapiens

<400> 407  
 gcgaggaccg ggtataagaa gcctcgtggc cttgcccggg cagccgcagg 50  
 ttccccgcgc gccccgagcc cccgcgccat gaagctcgcc gccctcctgg 100  
 ggcctctcgt ggccctgtcc tgcagctccg ctgctgcttt cttagtgggc 150  
 tcggccaagc ctgtggccca gcctgtcgct gcgctggagt cggcggcgga 200  
 ggccggggcc gggaccctgg ccaaccccct cggcaccctc aaccctctga 250  
 agctcctgct gagcagcctg ggcacccccg tgaaccacct catagagggc 300  
 tcccagaagt gtgtggctga gctgggtccc caggccgtgg ggcccgtaa 350

ggccctgaag gccctgctgg gggccctgac agtgtttggc tgagccgaga 400  
 ctggagcatc tacacctgag gacaagacgc tgcccacccg cgagggtgta 450  
 aaaccccgcc gcggggagga cgtccatcc ccttccccgc gcccctctca 500  
 ataaactgtg ttaagagcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 550  
 aaaaaaaaaa aaaaaaaaaa 570

<210> 408  
 <211> 104  
 <212> PRT  
 <213> Homo sapiens

<400> 408  
 Met Lys Leu Ala Ala Leu Leu Gly Leu Cys Val Ala Leu Ser Cys  
 1 5 10 15  
 Ser Ser Ala Ala Ala Phe Leu Val Gly Ser Ala Lys Pro Val Ala  
 20 25 30  
 Gln Pro Val Ala Ala Leu Glu Ser Ala Ala Glu Ala Gly Ala Gly  
 35 40 45  
 Thr Leu Ala Asn Pro Leu Gly Thr Leu Asn Pro Leu Lys Leu Leu  
 50 55 60  
 Leu Ser Ser Leu Gly Ile Pro Val Asn His Leu Ile Glu Gly Ser  
 65 70 75  
 Gln Lys Cys Val Ala Glu Leu Gly Pro Gln Ala Val Gly Ala Val  
 80 85 90  
 Lys Ala Leu Lys Ala Leu Leu Gly Ala Leu Thr Val Phe Gly  
 95 100

<210> 409  
 <211> 2089  
 <212> DNA  
 <213> Homo sapiens

<400> 409  
 tgaaggactt ttccaggacc caaggccaca cactggaagt cttgcagctg 50  
 aaggaggcca ctcccttgcc tcgcagccg atcacatgaa ggtggtgcca 100  
 agtctctctg tctccgtcct cctggcacag gtgtggctg taccggctt 150  
 ggcccccagt cctcagtcgc cagagacccc agccccctca aaccagacca 200  
 gcagggtagt gcaggctccc agggaggaag aggaagatga gcaggaggcc 250  
 agcgaggaga aggccgtgta ggaagagaaa gcctggctga tggccagcag 300  
 gcagcagctt gccaaaggaga cttcaaactt cggtattcag ctgctgcgaa 350  
 agatctccat gaggcacgat ggcaacatgg tcttctctcc atttgcatg 400  
 tccttggcca tgacaggctt gatgctgggg gccacagggc cgactgaaac 450  
 ccagatcaag agagggtccc acttgaggc cctgaagccc accaagcccg 500

ggctcctgcc ttccctcttt aagggactca gagagaccct ctcccgaac 550  
 ctggaactgg gcctctcaca ggggagtttt gccttcaccc acaaggattt 600  
 tgatgtcaaa gagactttct tcaatttato caagaggat tttgatacag 650  
 agtgcggtgcc tatgaatttt cgcaatgcct cacaggccaa aaggctcatg 700  
 aatcattaca ttaacaaaga gactcggggg aaaattccca aactgtttga 750  
 tgagattaat cctgaaacca aattaattct tgtggattac atcttgttca 800  
 aagggaatg gttgaccca tttgacctg tcttcaccga agtcgacact 850  
 ttccacctgg acaagtacaa gaccattaag gtgcccatga tgtacggtgc 900  
 aggcaagttt gcctccacct ttgacaagaa ttttcgtgt catgtcctca 950  
 aactgcctca ccaaggaaat gccaccatgc tgggtgtct catggagaaa 1000  
 atgggtgacc acctcgcct tgaagactac ctgaccacag acttggtgga 1050  
 gacatggctc agaaacatga aaaccagaaa catggaagt ttctttccga 1100  
 agttcaagct agatcagaag tatgagatgc atgagctgt taggcagatg 1150  
 ggaatcagaa gaatcttctc accctttgct gaccttagt aactctcagc 1200  
 tactggaaga aatctccaag tatccagggt tttacgaaga acagtgtatt 1250  
 aagttgatga aaggggcact gaggcagtg caggaatctt gtcagaaatt 1300  
 actgcttatt ccattgcctc tgtcatcaaa gtggaccggc catttcattt 1350  
 catgatctat gaagaaacct ctggaatgct tctgtttctg ggcaggggtg 1400  
 tgaatccgac tctctataa ttcaggacat gcataagcac ttcgtgtgtg 1450  
 agtagatgct gaatctgagg tatcaaacac acacaggata ccagcaatgg 1500  
 atggcagggg agagtgttcc ttttgttctt aactagtta ggggttctc 1550  
 aaataaatac agtagtcccc acttatctga gggggataca ttcaaagacc 1600  
 ccagcagat gcctgaaacg gtggacagt ctgaacctta tatatattt 1650  
 ttctacaca tacataccta tgataaagt taatttataa attaggcaca 1700  
 gtaagagatt aacaataata acaacattaa gtaaaatgag ttacttgaa 1750  
 gcaagcactg caataccata acagtcaaac tgattataga gaaggctact 1800  
 aagtactca tgggagagga gcatagacag tgtggagaca ttgggcaagg 1850  
 ggagaattca catcctgggt gggacagagc aggacagtgc aagattccat 1900  
 cccactactc agaatggcat gctgcttaag acttttagat tgtttattc 1950  
 tggaattttt catttaatgt ttttggacca tggttgacca tggtaactg 2000  
 agactgcaga aagcaaaacc atggataagg gaggactact acaaaagcat 2050  
 taaattgata catatttttt aaaaaaaaaa aaaaaaaaaa 2089

<210> 410  
 <211> 444  
 <212> PRT  
 <213> Homo sapiens

<400> 410

Met	Lys	Val	Val	Pro	Ser	Leu	Leu	Leu	Ser	Val	Leu	Leu	Ala	Gln	1	5	10	15
Val	Trp	Leu	Val	Pro	Gly	Leu	Ala	Pro	Ser	Pro	Gln	Ser	Pro	Glu	20	25	30	
Thr	Pro	Ala	Pro	Gln	Asn	Gln	Thr	Ser	Arg	Val	Val	Gln	Ala	Pro	35	40	45	
Arg	Glu	Glu	Glu	Glu	Asp	Glu	Gln	Glu	Ala	Ser	Glu	Glu	Lys	Ala	50	55	60	
Gly	Glu	Glu	Glu	Lys	Ala	Trp	Leu	Met	Ala	Ser	Arg	Gln	Gln	Leu	65	70	75	
Ala	Lys	Glu	Thr	Ser	Asn	Phe	Gly	Phe	Ser	Leu	Leu	Arg	Lys	Ile	80	85	90	
Ser	Met	Arg	His	Asp	Gly	Asn	Met	Val	Phe	Ser	Pro	Phe	Gly	Met	95	100	105	
Ser	Leu	Ala	Met	Thr	Gly	Leu	Met	Leu	Gly	Ala	Thr	Gly	Pro	Thr	110	115	120	
Glu	Thr	Gln	Ile	Lys	Arg	Gly	Leu	His	Leu	Gln	Ala	Leu	Lys	Pro	125	130	135	
Thr	Lys	Pro	Gly	Leu	Leu	Pro	Ser	Leu	Phe	Lys	Gly	Leu	Arg	Glu	140	145	150	
Thr	Leu	Ser	Arg	Asn	Leu	Glu	Leu	Gly	Leu	Ser	Gln	Gly	Ser	Phe	155	160	165	
Ala	Phe	Ile	His	Lys	Asp	Phe	Asp	Val	Lys	Glu	Thr	Phe	Phe	Asn	170	175	180	
Leu	Ser	Lys	Arg	Tyr	Phe	Asp	Thr	Glu	Cys	Val	Pro	Met	Asn	Phe	185	190	195	
Arg	Asn	Ala	Ser	Gln	Ala	Lys	Arg	Leu	Met	Asn	His	Tyr	Ile	Asn	200	205	210	
Lys	Glu	Thr	Arg	Gly	Lys	Ile	Pro	Lys	Leu	Phe	Asp	Glu	Ile	Asn	215	220	225	
Pro	Glu	Thr	Lys	Leu	Ile	Leu	Val	Asp	Tyr	Ile	Leu	Phe	Lys	Gly	230	235	240	
Lys	Trp	Leu	Thr	Pro	Phe	Asp	Pro	Val	Phe	Thr	Glu	Val	Asp	Thr	245	250	255	
Phe	His	Leu	Asp	Lys	Tyr	Lys	Thr	Ile	Lys	Val	Pro	Met	Met	Tyr	260	265	270	
Gly	Ala	Gly	Lys	Phe	Ala	Ser	Thr	Phe	Asp	Lys	Asn	Phe	Arg	Cys	275	280	285	

His Val Leu Lys Leu Pro Tyr Gln Gly Asn Ala Thr Met Leu Val  
 290 295 300  
 Val Leu Met Glu Lys Met Gly Asp His Leu Ala Leu Glu Asp Tyr  
 305 310 315  
 Leu Thr Thr Asp Leu Val Glu Thr Trp Leu Arg Asn Met Lys Thr  
 320 325 330  
 Arg Asn Met Glu Val Phe Phe Pro Lys Phe Lys Leu Asp Gln Lys  
 335 340 345  
 Tyr Glu Met His Glu Leu Leu Arg Gln Met Gly Ile Arg Arg Ile  
 350 355 360  
 Phe Ser Pro Phe Ala Asp Leu Ser Glu Leu Ser Ala Thr Gly Arg  
 365 370 375  
 Asn Leu Gln Val Ser Arg Val Leu Arg Arg Thr Val Ile Glu Val  
 380 385 390  
 Asp Glu Arg Gly Thr Glu Ala Val Ala Gly Ile Leu Ser Glu Ile  
 395 400 405  
 Thr Ala Tyr Ser Met Pro Pro Val Ile Lys Val Asp Arg Pro Phe  
 410 415 420  
 His Phe Met Ile Tyr Glu Glu Thr Ser Gly Met Leu Leu Phe Leu  
 425 430 435  
 Gly Arg Val Val Asn Pro Thr Leu Leu  
 440

<210> 411  
 <211> 636  
 <212> DNA  
 <213> Homo sapiens

<400> 411  
 ctgggatcag ccaactgcagc tccctgagca ctctctacag agacgcggac 50  
 ccagacatg aggaggctcc tcttggtcac cagcctggtg gttgtgctgc 100  
 tgtgggaggc aggtgcagtc ccagcaccca aggtccctat caagatgcaa 150  
 gtcaaacact ggccctcaga gcaggaacca gagaaggcct ggggcgcccg 200  
 tgtgtgtggg cctccggaga aggacgacca gctggtggtg ctgttccctg 250  
 tccagaagcc gaaactcttg accaccgagg agaagccacg aggtcagggc 300  
 aggggccccg tccctccagg caccaaggcc tggatggaga ccgaggacac 350  
 cctgggccgt gtccctgagtc ccgagccoga ccatgacacg ctgtaccacc 400  
 ctccgcctga ggaggaccag ggcgaggaga ggccccggtt gtgggtgatg 450  
 ccaaatcacc aggtgctcct gggaccggag gaagaccaag accacatcta 500  
 ccacccccag tagggctcca ggggccatca ctgccccgcg cctgtcccaa 550  
 ggcccaggct gttgggactg ggaccctccc taccctgccc cagctagaca 600



aataaacccc agcaggcaaa aaaaaaaaaa aaaaaa 636

<210> 412

<211> 151

<212> PRT

<213> Homo sapiens

<400> 412

Met	Arg	Arg	Leu	Leu	Val	Thr	Ser	Leu	Val	Val	Val	Leu	Leu	
1			5					10					15	
Trp	Glu	Ala	Gly	Ala	Val	Pro	Ala	Pro	Lys	Val	Pro	Ile	Lys	Met
			20						25				30	
Gln	Val	Lys	His	Trp	Pro	Ser	Glu	Gln	Asp	Pro	Glu	Lys	Ala	Trp
			35						40				45	
Gly	Ala	Arg	Val	Val	Glu	Pro	Pro	Glu	Lys	Asp	Asp	Gln	Leu	Val
			50						55				60	
Val	Leu	Phe	Pro	Val	Gln	Lys	Pro	Lys	Leu	Leu	Thr	Thr	Glu	Glu
			65						70				75	
Lys	Pro	Arg	Gly	Gln	Gly	Arg	Gly	Pro	Ile	Leu	Pro	Gly	Thr	Lys
			80						85				90	
Ala	Trp	Met	Glu	Thr	Glu	Asp	Thr	Leu	Gly	Arg	Val	Leu	Ser	Pro
			95						100				105	
Glu	Pro	Asp	His	Asp	Ser	Leu	Tyr	His	Pro	Pro	Pro	Glu	Glu	Asp
			110						115				120	
Gln	Gly	Glu	Glu	Arg	Pro	Arg	Leu	Trp	Val	Met	Pro	Asn	His	Gln
			125						130				135	
Val	Leu	Leu	Gly	Pro	Glu	Glu	Asp	Gln	Asp	His	Ile	Tyr	His	Pro
			140						145				150	

Gln

<210> 413

<211> 1176

<212> DNA

<213> Homo sapiens

<400> 413

agaaagctgc actctgttga gctccagggc gcagtgaggagg gagggagtga 50

agggagctctc tgtacccaag gaaagtgcag ctgagactca gacaagatta 100

caatgaacca actcagcttc ctgctgtttc tcatagcgac caccagagga 150

tggagtacag atgaggctaa tacttacttc aaggaaatgga cctgttcttc 200

gtctccatct ctgcccagaa gctgcaagga aatcaaagac gaatgtccta 250

gtgcatttga tggcctgtat ttctccgca ctgagaatgg tgttatctac 300

cagacctctt gtgacatgac ctctgggggt ggcggctgga cctgtgtggc 350

cagcgtgcat gagaatgaca tgcgtgggaa gtgcacggtg ggcgatcgct 400

ggtccagtcg caagggcagc aaagcagact acccagaggg ggacggcaac 450  
 tgggccaaact acaacacctt tggatctgca gaggcggccca cgagcgatga 500  
 ctacaagaac cctggctact acgacatcca ggccaaggac ctgggcatct 550  
 ggcacgtgcc caataagtcc cccatgcagc actggagaaa cagctccctg 600  
 ctgaggtacc gcacggacac tggcttcttc cagacactgg gacataatct 650  
 gtttgcatc taccagaaat atccagtga ataggagaa ggaagtgtt 700  
 ggactgacaa cggtcccggtg atccctgtgg tctatgattt tggcgacgcc 750  
 cagaaaaacag catcttatta ctcacctat ggccagcggg aattcactgc 800  
 gggatttgtt cagttcaggg tatttaataa cgagagagca gccaacgcct 850  
 tgtgtgtcgg aatgagggtc accggatgta aactgagca tcaactgcatt 900  
 ggtggaggag gatactttcc agaggccagt cccagcaggt gtggagattt 950  
 ttctggtttt gattggagtg gatatggaac tcatgttgtt tacagcagca 1000  
 gccgtgagat aactgaggca gctgtgcttc tattctatcg ttgagagttt 1050  
 tgtgggaggg aaccagacc tctctccca accatgagat cccaaggatg 1100  
 gagaacaact taccagtag ctagaatgtt aatggcagaa gagaaaaaca 1150  
 taaatcatat tgactcaaga aaaaaa 1176

<210> 414  
 <211> 313  
 <212> PRT  
 <213> Homo sapiens

<400> 414  
 Met Asn Gln Leu Ser Phe Leu Leu Phe Leu Ile Ala Thr Thr Arg  
 1 5 10  
 Gly Trp Ser Thr Asp Glu Ala Asn Thr Tyr Phe Lys Glu Trp Thr  
 20 25 30  
 Cys Ser Ser Ser Pro Ser Leu Pro Arg Ser Cys Lys Glu Ile Lys  
 35 40 45  
 Asp Glu Cys Pro Ser Ala Phe Asp Gly Leu Tyr Phe Leu Arg Thr  
 50 55 60  
 Glu Asn Gly Val Ile Tyr Gln Thr Phe Cys Asp Met Thr Ser Gly  
 65 70 75  
 Gly Gly Gly Trp Thr Leu Val Ala Ser Val His Glu Asn Asp Met  
 80 85 90  
 Arg Gly Lys Cys Thr Val Gly Asp Arg Trp Ser Ser Gln Gln Gly  
 95 100 105  
 Ser Lys Ala Asp Tyr Pro Glu Gly Asp Gly Asn Trp Ala Asn Tyr  
 110 115 120  
 Asn Thr Phe Gly Ser Ala Glu Ala Ala Thr Ser Asp Asp Tyr Lys

125	130	135
Asn Pro Gly Tyr Tyr Asp Ile Gln Ala	Lys Asp Leu Gly Ile Trp	
140	145	150
His Val Pro Asn Lys Ser Pro Met Gln	His Trp Arg Asn Ser Ser	
155	160	165
Leu Leu Arg Tyr Arg Thr Asp Thr Gly	Phe Leu Gln Thr Leu Gly	
170	175	180
His Asn Leu Phe Gly Ile Tyr Gln Lys	Tyr Pro Val Lys Tyr Gly	
185	190	195
Glu Gly Lys Cys Trp Thr Asp Asn Gly	Pro Val Ile Pro Val Val	
200	205	210
Tyr Asp Phe Gly Asp Ala Gln Lys Thr	Ala Ser Tyr Tyr Ser Pro	
215	220	225
Tyr Gly Gln Arg Glu Phe Thr Ala Gly	Phe Val Gln Phe Arg Val	
230	235	240
Phe Asn Asn Glu Arg Ala Ala Asn Ala	Leu Cys Ala Gly Met Arg	
245	250	255
Val Thr Gly Cys Asn Thr Glu His His	Cys Ile Gly Gly Gly Gly	
260	265	270
Tyr Phe Pro Glu Ala Ser Pro Gln Gln	Cys Gly Asp Phe Ser Gly	
275	280	285
Phe Asp Trp Ser Gly Tyr Gly Thr His	Val Gly Tyr Ser Ser Ser	
290	295	300
Arg Glu Ile Thr Glu Ala Ala Val Leu	Leu Phe Tyr Arg	
305	310	

<210> 415  
 <211> 1281  
 <212> DNA  
 <213> Homo sapiens

<400> 415  
 gcggagccgg cgccggctgc gcagaggagc cgctctcgcc gccgccacct 50  
 cggtgaggag ccacagagc tgccgcaccc tgccctcgga acaatgggac 100  
 tcggcgcgcg aggtgcttgg gccgcgctgc tccctggggag gctgcagggtg 150  
 ctacgcgtgc tggggggccgc coatgaaagc gcagccatgg cggcacatgc 200  
 aaacatagag aattctgggc ttccacacaa ctccagtgc aactcaacag 250  
 agactctcca acatgtgcct tctgaccata caaatgaaac ttccaacagt 300  
 actgtgaaac caccaacttc agttgcctca gactccagta atacaacggt 350  
 caccacatg aaacctacag cggcatctaa tacaacaaca ccagggatgg 400  
 tctcaacaaa tatgacttct accaccttaa agtctacacc caaaacaaca 450  
 agtgtttacc agaacacatc tcagatatca acatccacaa tgaccgtaac 500

ccacaatagt tcagtgacat ctgctgcttc atcagtaaca atcacaacaa 550  
 ctatgcattc tgaagcaaag aaaggatcaa aatttgatac tgggagcttt 600  
 gttggtggta ttgtattaac gctgggagtt ttatctattc ttacattgg 650  
 atgcaaaatg tattactcaa gaagaggcat tcggtatcga accatagatg 700  
 aacatgatgc catcatttaa ggaatccat ggaccaagga tggaatacag 750  
 attgatgctg cccatcaat taattttggt ttattaatag tttaaaacaa 800  
 tattctcttt ttgaaaatag tataaacagg ccatgcatat aatgtacagt 850  
 gtattacgta aatatgtaaa gattcttcaa ggtaacaagg gtttgggttt 900  
 tgaaataaac atctggatct tatagaccgt tcatacaatg gttttagcaa 950  
 gttcatagta agacaaacaa gtccatcttt ttttttttgg ctgggggtggg 1000  
 ggcattggtc acatatgacc agtaattgaa agacgtcatc actgaaagac 1050  
 agaatgccat ctgggcatac aaataagaag tttgtcacag cactcaggat 1100  
 tttgggtatc tttttagtct cacataaaga acttcagtgc ttttcagagc 1150  
 tggatatatc ttaattacta atgccacaca gaaattatac aatcaaaacta 1200  
 gatctgaagc ataatttaag aaaacatca acattttttg tgctttaaac 1250  
 tgtagtagtt ggtctagaaa caaaatactc c 1281

<210> 416  
 <211> 208  
 <212> PRT  
 <213> Homo sapiens

<400> 416

Met	Gly	Leu	Gly	Ala	Arg	Gly	Ala	Trp	Ala	Ala	Leu	Leu	Leu	Gly
1				5					10					15
Thr	Leu	Gln	Val	Leu	Ala	Leu	Leu	Gly	Ala	Ala	His	Glu	Ser	Ala
			20					25						30
Ala	Met	Ala	Ala	Ser	Ala	Asn	Ile	Glu	Asn	Ser	Gly	Leu	Pro	His
			35					40						45
Asn	Ser	Ser	Ala	Asn	Ser	Thr	Glu	Thr	Leu	Gln	His	Val	Pro	Ser
			50					55					60	
Asp	His	Thr	Asn	Glu	Thr	Ser	Asn	Ser	Thr	Val	Lys	Pro	Pro	Thr
			65					70						75
Ser	Val	Ala	Ser	Asp	Ser	Ser	Asn	Thr	Thr	Val	Thr	Thr	Met	Lys
			80					85					90	
Pro	Thr	Ala	Ala	Ser	Asn	Thr	Thr	Thr	Pro	Gly	Met	Val	Ser	Thr
			95					100					105	
Asn	Met	Thr	Ser	Thr	Thr	Leu	Lys	Ser	Thr	Pro	Lys	Thr	Thr	Ser
			110					115					120	
Val	Ser	Gln	Asn	Thr	Ser	Gln	Ile	Ser	Thr	Ser	Thr	Met	Thr	Val

125	130	135
Thr His Asn Ser Ser Val Thr Ser Ala Ala Ser Ser Val Thr Ile		
140	145	150
Thr Thr Thr Met His Ser Glu Ala Lys Lys Gly Ser Lys Phe Asp		
155	160	165
Thr Gly Ser Phe Val Gly Gly Ile Val Leu Thr Leu Gly Val Leu		
170	175	180
Ser Ile Leu Tyr Ile Gly Cys Lys Met Tyr Tyr Ser Arg Arg Gly		
185	190	195
Ile Arg Tyr Arg Thr Ile Asp Glu His Asp Ala Ile Ile		
200	205	

<210> 417

<211> 1728

<212> DNA

<213> Homo sapiens

<400> 417

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gcgatggcga cctgtgggg aggcttctt cggttggtct ccttgctcag 150

cctgtcgtgc ctggcgcttt cgtgctgct gctggcgag ctgtcagacg 200

ccgccaagaa ttctgaggat gtcagatgta aatgtatctt cctccctat 250

aaagaaaatt ctgggcata ttataataag aacatatctc agaaagattg 300

tgattgcctt catgttgtg agcccatgcc tgtcgggggg cctgatgtag 350

aagcatactg tctacgctgt gaatgcaaat atgaagaaag aagctctgtc 400

acaatcaagg ttaccattat aatttatctc tccattttgg gccttctact 450

tctgtacatg gtatatctta ctctggttga gcccatactg aagaggcgcc 500

tctttggaca tgcacagttg atacagagtg atgatgatat tggggatcac 550

cagccttttg caaatgcaca cgatgtgcta gcccgctccc gcagctgagc 600

caacgtgctg aacaaggtag aatatgcaca gcagcgctgg aagcttcaag 650

tcacaagaca gcgaaagtct gtctttgacc ggcatgttgt cctcagctaa 700

ttgggaattg aattcaaggt gactagaaag aaacaggcag acaactggaa 750

agaactgact gggttttgct gggtttcatt ttaataacct gttgatttca 800

ccaactgttg ctggaagatt caaaactgga agcaaaaaat tgcttgattt 850

ttttttcttg ttaacgtaat aatagagaca tttttaaaac cacacagctc 900

aaagtcagcc aataagtcct ttccattttg tgacttttcc taataaaaaa 950

aaatctgcct gtaaattatc ttgaagtcct ttacctggaa caagcactct 1000

ctttttcacc acatagtttt aacttgactt tcaagataat tttcagggtt 1050  
 ttgtgtgttg ttgttttttg ttgttttggt ttggtgggag aggggaggga 1100  
 tgcttgaggaa gtggttaaca acttttttca agtcacttta ctaaacaaac 1150  
 ttttgtaaat agaccttacc ttctattttc gagtttcatt tatattttgc 1200  
 agtgtagcca gctcatcaa agagctgact tactcatttg acttttgcac 1250  
 tgaactgtatt atctgggtat ctgctgtgtc tgcacttcat ggtaaacggg 1300  
 atctaaaaat cctggtggct ttccacaaaa agcagatttt ctctatgtac 1350  
 tgtgatgtct gatgcaatgc atcctagaac aaactggcca ttgctagtt 1400  
 tactctaaag actaaacata gtcttggtgt gtgtggttct actcatcttc 1450  
 tagtaccttt aaggacaaat cctaaggact tggacacttg caataaagaa 1500  
 attttatttt aaaccaagc ctccctggat tgataatata tacacatttg 1550  
 tcagcatttc cggtcgtggt gagaggcagc tgtttgagct ccaatatgtg 1600  
 cagctttgaa ctagggtctg ggttggtggg gcctcttctg aaaggtctaa 1650  
 ccattatttg ataactggct tttttcttcc tatgtctctt ttggaatgta 1700  
 acaataaaaa taatttttga aacatcaa 1728

<210> 418  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

<400> 418  
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 20 25 30  
 Ser Asp Ala Ala Lys Asn Phe Glu Asp Val Arg Cys Lys Cys Ile  
 35 40 45  
 Cys Pro Pro Tyr Lys Glu Asn Ser Gly His Ile Tyr Asn Lys Asn  
 50 55 60  
 Ile Ser Gln Lys Asp Cys Asp Cys Leu His Val Val Glu Pro Met  
 65 70 75  
 Pro Val Arg Gly Pro Asp Val Glu Ala Tyr Cys Leu Arg Cys Glu  
 80 85 90  
 Cys Lys Tyr Glu Glu Arg Ser Ser Val Thr Ile Lys Val Thr Ile  
 95 100 105  
 Ile Ile Tyr Leu Ser Ile Leu Gly Leu Leu Leu Tyr Met Val  
 110 115 120  
 Tyr Leu Thr Leu Val Glu Pro Ile Leu Lys Arg Arg Leu Phe Gly  
 125 130 135



Arg Phe Pro Pro Met Met His His His Gln Ala Pro Ser Asp Gly  
50 55 60

Gln Thr Pro Gly Ala Arg Phe Gln Arg Ser His Leu Ala Glu Ala  
65 70 75

Phe Ala Lys Ala Lys Gly Ser Gly Gly Gly Ala Gly Gly Gly Gly  
80 85 90

Ser Gly Arg Gly Leu Met Gly Gln Ile Ile Pro Ile Tyr Gly Phe  
95 100 105

Gly Ile Phe Leu Tyr Ile Leu Tyr Ile Leu Phe Lys Val Ser Arg  
110 115 120

Ile Ile Leu Ile Ile Leu His Gln  
125

<210> 421

<211> 1630

<212> DNA

<213> Homo sapiens

<400> 421

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gctcttcacg ttggatttga aagttgagag cagcatgttt tgccactga 100

aactcctcct gctgccagtg ttactggatt attccttggg cgtgaatgac 150

ttgaatgttt cccgcctga gctaacagtc catgtgggtg attcagctct 200

gatggagtgt gttttccaga gcacagaaga caaatgtata ttcaagatag 250

actggactct gtcaccagga gagcacgcca aggaagaata tgtgtatata 300

tattactoca atctcagtg gctatttggg cgcttcaga accgcgtaca 350

cttgatgggg gacatcttat gcaatgatgg ctctctcctg ctccaagatg 400

tgcaagaggg tgaccaggga acctatatct gtgaaatccg cctcaaaggg 450

gagagccagg tgttcaagaa ggcggtggta ctgcatgtgc ttccagagga 500

gcccagaagag ctcatgggtcc atgtgggtgg attgattcag atgggatgtg 550

ttttccagag cacagaagtg aaacacgtga ccaaggtaga atggatatat 600

tcaggacggc ggcgaagga ggagattgta tttcgttact accacaaact 650

caggatgtct gtggagtact cccagagctg gggccacttc cagaatcgtg 700

tgaacctggt gggggacatt ttccgcaatg acggttccat catgcttcaa 750

ggagtggagg agtcagatgg aggaactac acctgcagta tccacctagg 800

gaacctgggt ttcaagaaaa ccatttgtgt gcatgtcagc ccggaagagc 850

ctcgaaact ggtgaccccg gcagccctga ggcctctggt ctggggtggt 900

aatcagttgg tgatcattgt ggaattgtc tgtgccacaa tcctgctgct 950

ccctgttctg atattgatcg tgaagaagac ctgtggaaat aagagttcag 1000



tgaattctac agtcttggtg aagaacacga agaagactaa tccagagata 1050  
 aaagaaaaac cctgccattt tgaagatgt gaaggggaga aacacattta 1100  
 ctccccata attgtacggg aggtgatcga ggaagaagaa ccaagtga 1150  
 aatcagaggc cacctacatg accatgcacc cagtttgccc ttctctgagg 1200  
 tcagatcgga acaactcact tgaaaaaaag tcaggtgggg gaatgccaaa 1250  
 aacacagcaa gccttttgag aagaatggag agtcccttca tctcagcagc 1300  
 ggtggagact ctctcctgtg tgtgtcctgg gccactctac cagtgtattc 1350  
 agactccgcg tctccagct gtctctctgt ctctattgtt ggtcaatata 1400  
 ctgaagatgg agaatttga gcctggcaga gagactggac agctctggag 1450  
 gaacaggcct gctgagggga ggggagcatg gacttggcct ctggagtggg 1500  
 acactggccc tgggaaccag gctgagctga gtggcctcaa acccccgtt 1550  
 ggatcagacc ctctgtggg caggggttctt agtgatgag ttactgggaa 1600  
 gaatcagaga taaaaaccaa cccaaatcaa 1630

<210> 422  
 <211> 394  
 <212> PRT  
 <213> Homo sapiens

<400> 422  
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 Tyr Ser Leu Gly Leu Asn Asp Leu Asn Val Ser Pro Pro Glu Leu  
 20 25 30  
 Thr Val His Val Gly Asp Ser Ala Leu Met Gly Cys Val Phe Gln  
 35 40 45  
 Ser Thr Glu Asp Lys Cys Ile Phe Lys Ile Asp Trp Thr Leu Ser  
 50 55 60  
 Pro Gly Glu His Ala Lys Asp Glu Tyr Val Leu Tyr Tyr Tyr Ser  
 65 70 75  
 Asn Leu Ser Val Pro Ile Gly Arg Phe Gln Asn Arg Val His Leu  
 80 85 90  
 Met Gly Asp Ile Leu Cys Asn Asp Gly Ser Leu Leu Leu Gln Asp  
 95 100 105  
 Val Gln Glu Ala Asp Gln Gly Thr Tyr Ile Cys Glu Ile Arg Leu  
 110 115 120  
 Lys Gly Glu Ser Gln Val Phe Lys Lys Ala Val Val Leu His Val  
 125 130 135  
 Leu Pro Glu Glu Pro Lys Glu Leu Met Val His Val Gly Gly Leu  
 140 145 150  
 Ile Gln Met Gly Cys Val Phe Gln Ser Thr Glu Val Lys His Val

155	160	165
Thr Lys Val Glu Trp Ile Phe Ser Gly	Arg Arg Ala Lys Glu Glu	
170	175	180
Ile Val Phe Arg Tyr Tyr His Lys Leu	Arg Met Ser Val Glu Tyr	
185	190	195
Ser Gln Ser Trp Gly His Phe Gln Asn	Arg Val Asn Leu Val Gly	
200	205	210
Asp Ile Phe Arg Asn Asp Gly Ser Ile	Met Leu Gln Gly Val Arg	
215	220	225
Glu Ser Asp Gly Gly Asn Tyr Thr Cys	Ser Ile His Leu Gly Asn	
230	235	240
Leu Val Phe Lys Lys Thr Ile Val Leu	His Val Ser Pro Glu Glu	
245	250	255
Pro Arg Thr Leu Val Thr Pro Ala Ala	Leu Arg Pro Leu Val Leu	
260	265	270
Gly Gly Asn Gln Leu Val Ile Ile Val	Gly Ile Val Cys Ala Thr	
275	280	285
Ile Leu Leu Leu Pro Val Leu Ile Leu	Ile Val Lys Lys Thr Cys	
290	295	300
Gly Asn Lys Ser Ser Val Asn Ser Thr	Val Leu Val Lys Asn Thr	
305	310	315
Lys Lys Thr Asn Pro Glu Ile Lys Glu	Lys Pro Cys His Phe Glu	
320	325	330
Arg Cys Glu Gly Glu Lys His Ile Tyr	Ser Pro Ile Ile Val Arg	
335	340	345
Glu Val Ile Glu Glu Glu Glu Pro Ser	Glu Lys Ser Glu Ala Thr	
350	355	360
Tyr Met Thr Met His Pro Val Trp Pro	Ser Leu Arg Ser Asp Arg	
365	370	375
Asn Asn Ser Leu Glu Lys Lys Ser Gly	Gly Gly Met Pro Lys Thr	
380	385	390
Gln Gln Ala Phe		

<210> 423

<211> 963

<212> DNA

<213> Homo sapiens

<400> 423

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ctctgagctc agttgcagta ctcggaagc catgcaggat gaagatggat 200



[illegible]

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<210> 425
<211> 24
<212> DNA
<213> Artificial Sequence
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<220>  
<223> Synthetic oligonucleotide probe

<400> 425  
tgcagcccct gtgacacaaa ctgg 24

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<210> 426
<211> 26
<212> DNA
<213> Artificial Sequence
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<220>  
<223> Synthetic oligonucleotide probe

<400> 426  
ctgagataac cgaqccatcc tcccac 26

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<210> 427
<211> 49
<212> DNA
<213> Artificial Sequence
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<220>  
<223> Synthetic oligonucleotide probe

<400> 427  
gcttctctgac actaaggctg tctgctagtc agaattgcct caaaaagag 49

<210> 428  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 428  
 ccaccaatgg cagccccacc t 21  
  
 <210> 429  
 <211> 17  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 429  
 gactgccctc cctgcc a 17  
  
 <210> 430  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 430  
 caaaaagcct ggaagtcttc aaag 24  
  
 <210> 431  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 431  
 cagctggact gcagtgcta 20  
  
 <210> 432  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 432  
 cagtgagcac agcaagtgtc ct 22  
  
 <210> 433  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 433  
 ggccacctcc ttgagtcttc agttccct 28  
  
 <210> 434  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 434  
 caactactgg ctaaagctgg tgaa 24  
  
 <210> 435  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 435  
 cctttctgta taggtgatac ccaatga 27  
  
 <210> 436  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 436  
 tggccatccc taccagaggc aaaa 24  
  
 <210> 437  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 437  
 ctgaagacga cgcggtattac ta 22  
  
 <210> 438  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 438  
 ggCagaaatg ggaggcaga 19  
  
 <210> 439  
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 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
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 <400> 456  
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<210> 470
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<400> 470
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<210> 471
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<220>
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<400> 471
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<400> 472
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 <213> Homo Sapien

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 cagcccgccg gggagccgga ccgcgcgcgg aggcagctcg acggcatgct 150  
 gagccccctc ctttgctgaa gcccgagtgc ggagaagccc gggcaaacgc 200  
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<210> 495  
 <211> 245  
 <212> PRT  
 <213> Homo Sapien

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 20 25 30  
 Pro Ser Lys Gly Lys Thr Ser Cys Asp Lys Asn Lys Leu Asn Val  
 35 40 45  
 Phe Ser Arg Val Lys Leu Phe Gly Ser Lys Lys Arg Arg Arg Arg  
 50 55 60  
 Arg Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu Tyr Ser  
 65 70 75  
 Arg Gln Gly Tyr His Leu Gln Leu Gln Ala Asp Gly Thr Ile Asp  
 80 85 90  
 Gly Thr Lys Asp Glu Asp Ser Thr Tyr Thr Leu Phe Asn Leu Ile  
 95 100 105  
 Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Gln Thr Lys  
 110 115 120  
 Leu Tyr Leu Ala Met Asn Ser Glu Gly Tyr Leu Tyr Thr Ser Gly  
 125 130 135  
 Leu Phe Thr Pro Glu Cys Lys Phe Lys Glu Ser Val Phe Glu Asn  
 140 145 150  
 Tyr Tyr Val Thr Tyr Ser Ser Met Ile Thr Arg Gln Gln Gln Ser  
 155 160 165  
 Gly Arg Gly Trp Tyr Leu Gly Leu Asn Lys Glu Gly Glu Ile Met  
 170 175 180  
 Lys Gly Asn His Val Lys Lys Asn Lys Pro Ala Ala His Phe Leu  
 185 190 195  
 Pro Lys Pro Leu Lys Val Ala Met Tyr Lys Glu Pro Ser Leu His  
 200 205 210  
 Asp Leu Thr Glu Phe Ser Arg Ser Gly Ser Gly Thr Pro Thr Lys

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His Asn Glu Ser Thr					
	245				

<210> 496  
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 tggggggatt tcagtaaaa aagtggggga tcccctccat ttagagtgtg 200  
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<212> PRT  
<213> Homo Sapien

<400> 497  
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20 25 30  
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35 40 45  
Leu Leu Ser Lys Val Arg Leu Cys Gly Gly Arg Pro Ala Arg Pro  
50 55 60  
Asp Arg Gly Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu  
65 70 75  
Phe Cys Arg Gln Gly Phe Tyr Leu Gln Ala Asn Pro Asp Gly Ser  
80 85 90  
Ile Gln Gly Thr Pro Glu Asp Thr Ser Ser Phe Thr His Phe Asn  
95 100 105  
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Leu Gly His Tyr Met Ala Met Asn Ala Glu Gly Leu Leu Tyr Ser  
125 130 135  
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140 145 150  
Glu Asn Tyr Tyr Val Leu Tyr Ala Ser Ala Leu Tyr Arg Gln Arg  
155 160 165  
Arg Ser Gly Arg Ala Trp Tyr Leu Gly Leu Asp Lys Glu Gly Gln  
170 175 180  
Val Met Lys Gly Asn Arg Val Lys Lys Thr Lys Ala Ala Ala His  
185 190 195  
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200 205 210  
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215 220 225

<210> 498  
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<212> DNA  
<213> Homo Sapien

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<211> 247  
<212> PRT  
<213> Homo Sapien

<400> 499  
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Ala Arg Glu Gln His Trp Asp Arg Pro Ser Ala Ser Arg Arg Arg  
20 25 30  
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35 40 45  
Asp Ile Phe Ser Lys Val Arg Ile Phe Gly Leu Lys Lys Arg Arg  
50 55 60  
Leu Arg Arg Gln Asp Pro Gln Leu Lys Gly Ile Val Thr Arg Leu  
65 70 75  
Tyr Cys Arg Gln Gly Tyr Tyr Leu Gln Met His Pro Asp Gly Ala  
80 85 90  
Leu Asp Gly Thr Lys Asp Asp Ser Thr Asn Ser Thr Leu Phe Asn  
95 100 105  
Leu Ile Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Lys  
110 115 120



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 ccactactcc tttctcttac ttttcaaccg tcacagtaga gactatgga 2200  
 ccgtctcagg atgaggcacg gaccacagat acaaatgtgg gtccactcc 2250  
 agtggctcag tgggagacca ccaatgtgac cacctctctc acaccacaga 2300  
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agtgggatcc caggaattga tgaggtcatg aagactacca aaatcatcat 2400  
 tgggtgtttt gtggccatca cactcatggc tgcagtgatg ctggtcattt 2450  
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 aggactgttg aaattattaa tgtggatgat gagattacgg gagacacacc 2550  
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 caaaaaacaa acaatcaaaa aaaaagacag tttattaaaa atgacacaaa 2800  
 tgactgggct aaatctactg tttcaaaaaa gtgtctttac aaaaaacaa 2850  
 aaaagaaaag aaattttatt attaaaaatt ctattgtgat ctaaagcaga 2900  
 caaaaa 2906

<210> 501  
 <211> 640  
 <212> PRT  
 <213> Homo Sapien

<400> 501  
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 Leu Ala Leu Gln Leu Leu Val Val Ala Gly Leu Val Arg Ala Gln  
 35 40 45  
 Thr Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val  
 50 55 60  
 Ile Cys Val Arg Lys Asn Leu Arg Glu Val Pro Asp Gly Ile Ser  
 65 70 75  
 Thr Asn Thr Arg Leu Leu Asn Leu His Glu Asn Gln Ile Gln Ile  
 80 85 90  
 Ile Lys Val Asn Ser Phe Lys His Leu Arg His Leu Glu Ile Leu  
 95 100 105  
 Gln Leu Ser Arg Asn His Ile Arg Thr Ile Glu Ile Gly Ala Phe  
 110 115 120  
 Asn Gly Leu Ala Asn Leu Asn Thr Leu Glu Leu Phe Asp Asn Arg  
 125 130 135  
 Leu Thr Thr Ile Pro Asn Gly Ala Phe Val Tyr Leu Ser Lys Leu  
 140 145 150  
 Lys Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser  
 155 160 165

Tyr	Ala	Phe	Asn	Arg	Ile	Pro	Ser	Leu	Arg	Arg	Leu	Asp	Leu	Gly	170	175	180
Glu	Leu	Lys	Arg	Leu	Ser	Tyr	Ile	Ser	Glu	Gly	Ala	Phe	Glu	Gly	185	190	195
Leu	Ser	Asn	Leu	Arg	Tyr	Leu	Asn	Leu	Ala	Met	Cys	Asn	Leu	Arg	200	205	210
Glu	Ile	Pro	Asn	Leu	Thr	Pro	Leu	Ile	Lys	Leu	Asp	Glu	Leu	Asp	215	220	225
Leu	Ser	Gly	Asn	His	Leu	Ser	Ala	Ile	Arg	Pro	Gly	Ser	Phe	Gln	230	235	240
Gly	Leu	Met	His	Leu	Gln	Lys	Leu	Trp	Met	Ile	Gln	Ser	Gln	Ile	245	250	255
Gln	Val	Ile	Glu	Arg	Asn	Ala	Phe	Asp	Asn	Leu	Gln	Ser	Leu	Val	260	265	270
Glu	Ile	Asn	Leu	Ala	His	Asn	Asn	Leu	Thr	Leu	Leu	Pro	His	Asp	275	280	285
Leu	Phe	Thr	Pro	Leu	His	His	Leu	Glu	Arg	Ile	His	Leu	His	His	290	295	300
Asn	Pro	Trp	Asn	Cys	Asn	Cys	Asp	Ile	Leu	Trp	Leu	Ser	Trp	Trp	305	310	315
Ile	Lys	Asp	Met	Ala	Pro	Ser	Asn	Thr	Ala	Cys	Cys	Ala	Arg	Cys	320	325	330
Asn	Thr	Pro	Pro	Asn	Leu	Lys	Gly	Arg	Tyr	Ile	Gly	Glu	Leu	Asp	335	340	345
Gln	Asn	Tyr	Phe	Thr	Cys	Tyr	Ala	Pro	Val	Ile	Val	Glu	Pro	Pro	350	355	360
Ala	Asp	Leu	Asn	Val	Thr	Glu	Gly	Met	Ala	Ala	Glu	Leu	Lys	Cys	365	370	375
Arg	Ala	Ser	Thr	Ser	Leu	Thr	Ser	Val	Ser	Trp	Ile	Thr	Pro	Asn	380	385	390
Gly	Thr	Val	Met	Thr	His	Gly	Ala	Tyr	Lys	Val	Arg	Ile	Ala	Val	395	400	405
Leu	Ser	Asp	Gly	Thr	Leu	Asn	Phe	Thr	Asn	Val	Thr	Val	Gln	Asp	410	415	420
Thr	Gly	Met	Tyr	Thr	Cys	Met	Val	Ser	Asn	Ser	Val	Gly	Asn	Thr	425	430	435
Thr	Ala	Ser	Ala	Thr	Leu	Asn	Val	Thr	Ala	Ala	Thr	Thr	Thr	Pro	440	445	450
Phe	Ser	Tyr	Phe	Ser	Thr	Val	Thr	Val	Glu	Thr	Met	Glu	Pro	Ser	455	460	465
Gln	Asp	Glu	Ala	Arg	Thr	Thr	Asp	Asn	Asn	Val	Gly	Pro	Thr	Pro	470	475	480



Val	Val	Asp	Trp	Glu	Thr	Thr	Asn	Val	Thr	Thr	Ser	Leu	Thr	Pro	
				485					490					495	
Gln	Ser	Thr	Arg	Ser	Thr	Glu	Lys	Thr	Phe	Thr	Ile	Pro	Val	Thr	
				500					505					510	
Asp	Ile	Asn	Ser	Gly	Ile	Pro	Gly	Ile	Asp	Glu	Val	Met	Lys	Thr	
				515					520					525	
Thr	Lys	Ile	Ile	Ile	Gly	Cys	Phe	Val	Ala	Ile	Thr	Leu	Met	Ala	
				530					535					540	
Ala	Val	Met	Leu	Val	Ile	Phe	Tyr	Lys	Met	Arg	Lys	Gln	His	His	
				545					550					555	
Arg	Gln	Asn	His	His	Ala	Pro	Thr	Arg	Thr	Val	Glu	Ile	Ile	Asn	
				560					565					570	
Val	Asp	Asp	Glu	Ile	Thr	Gly	Asp	Thr	Pro	Met	Glu	Ser	His	Leu	
				575					580					585	
Pro	Met	Pro	Ala	Ile	Glu	His	Glu	His	Leu	Asn	His	Tyr	Asn	Ser	
				590					595					600	
Tyr	Lys	Ser	Pro	Phe	Asn	His	Thr	Thr	Thr	Val	Asn	Thr	Ile	Asn	
				605					610					615	
Ser	Ile	His	Ser	Ser	Val	His	Glu	Pro	Leu	Leu	Ile	Arg	Met	Asn	
				620					625					630	
Ser	Lys	Asp	Asn	Val	Gln	Glu	Thr	Gln	Ile						
				635					640						

<210> 502  
 <211> 2458  
 <212> DNA  
 <213> Homo Sapien

<400> 502  
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 ccagctcgcc cgaggctcgt cggaggcgcc cggccgcccc ggagccaagc 150  
 agcaactgag cggggaagcg ccogcgctcg gggatcgga tgcctctct 200  
 ccttctctct ttgctagttt cctactatgt tggaaccttg gggactocaa 250  
 ctgagatcaa gagagtggca gaggaaaagg tcactttgcc ctgccaccat 300  
 caactggggc ttccagaaaa agacactctg gatattgaat ggctgctcac 350  
 cgataatgaa gggaaccaa aagtgggtgat cacttactcc agtcgtcatg 400  
 tctacaataa cttgactgag gaacagaagg gccgagtggc ctttgcttcc 450  
 aatttctggy caggagatgc ctcccttgag attgaacctc tgaagcccag 500  
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<210> 503  
 <211> 373  
 <212> PRT  
 <213> Homo Sapien

<400> 503  
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 20 25 30  
 Val Thr Leu Pro Cys His His Gln Leu Gly Leu Pro Glu Lys Asp  
 35 40 45  
 Thr Leu Asp Ile Glu Trp Leu Leu Thr Asp Asn Glu Gly Asn Gln  
 50 55 60  
 Lys Val Val Ile Thr Tyr Ser Ser Arg His Val Tyr Asn Asn Leu  
 65 70 75  
 Thr Glu Glu Gln Lys Gly Arg Val Ala Phe Ala Ser Asn Phe Leu  
 80 85 90  
 Ala Gly Asp Ala Ser Leu Gln Ile Glu Pro Leu Lys Pro Ser Asp  
 95 100 105  
 Glu Gly Arg Tyr Thr Cys Lys Val Lys Asn Ser Gly Arg Tyr Val  
 110 115 120  
 Trp Ser His Val Ile Leu Lys Val Leu Val Arg Pro Ser Lys Pro  
 125 130 135  
 Lys Cys Glu Leu Glu Gly Glu Leu Thr Glu Gly Ser Asp Leu Thr  
 140 145 150  
 Leu Gln Cys Glu Ser Ser Ser Gly Thr Glu Pro Ile Val Tyr Tyr  
 155 160 165  
 Trp Gln Arg Ile Arg Glu Lys Glu Gly Glu Asp Glu Arg Leu Pro  
 170 175 180  
 Pro Lys Ser Arg Ile Asp Tyr Asn His Pro Gly Arg Val Leu Lys  
 185 190 195  
 Gln Asn Leu Thr Met Ser Tyr Ser Gly Leu Tyr Gln Cys Thr Ala  
 200 205 210  
 Gly Asn Glu Ala Gly Lys Glu Ser Cys Val Val Arg Val Thr Val  
 215 220 225

Gln Tyr Val Gln Ser Ile Gly Met Val Ala Gly Ala Val Thr Gly  
 230 235 240  
 Ile Val Ala Gly Ala Leu Leu Ile Phe Leu Leu Val Trp Leu Leu  
 245 250 255  
 Ile Arg Arg Lys Asp Lys Glu Arg Tyr Glu Glu Glu Glu Arg Pro  
 260 265 270  
 Asn Glu Ile Arg Glu Asp Ala Glu Ala Pro Lys Ala Arg Leu Val  
 275 280 285  
 Lys Pro Ser Ser Ser Ser Ser Gly Ser Arg Ser Ser Arg Ser Gly  
 290 295 300  
 Ser Ser Ser Thr Arg Ser Thr Ala Asn Ser Ala Ser Arg Ser Gln  
 305 310 315  
 Arg Thr Leu Ser Thr Asp Ala Ala Pro Gln Pro Gly Leu Ala Thr  
 320 325 330  
 Gln Ala Tyr Ser Leu Val Gly Pro Glu Val Arg Gly Ser Glu Pro  
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 Lys Lys Val His His Ala Asn Leu Thr Lys Ala Glu Thr Thr Pro  
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 365 370

<210> 504  
 <211> 3060  
 <212> DNA  
 <213> Homo Sapien

<400> 504  
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 ctccctgtgcg gagtagtgga ttccgccaga agtttgagta tcaactactcc 150  
 tgaagagatg attgaaaaag ccaaagggga aactgcctat ctgccatgca 200  
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 atatcaccag ctgataatca gaaggtggat caagtgatta ttttatattc 300  
 tggagacaaa atttatgatg actactatcc agatctgaaa ggcagagtac 350  
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 aatttacaac tgtcagatat tggcacatat cagtgcaaaag tgaaaaaagc 450  
 tcctcgtgtt gcaaataaga agattcatct ggtagttcct gttaaagcctt 500  
 caggtgcgag atgttacgtt gatggatctg aagaaattgg aagtgaacttt 550  
 aagataaaat gtgaacccaa agaaggttca cttccattac agtatgagtg 600  
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 tgacttcatc tgttatatct gtaaaaaaat cctcttctga gtactctggg 700

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 aagaacacat ctactttatg caatggcatt agacatgtaa gtcagatgtc 1300  
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 taacaaatatt ttaacttttc atatgcata tctgatattg ggtcttttag 1450  
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 ccggttcttt tcccttttta tgcacacaac agaaacacgc gttgtcatgc 1600  
 ctcaaaactat tttttatttg caactacatg atttcacaca attctcttaa 1650  
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 cataaagtaa attctcaaag gtgctagaac aaatcgtcca ctctacagt 1750  
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 cttctataaa aataagtttg atggtttggc ccatctaact tcaactactat 1950  
 tagtaagaac ttttaacttt taatgtgtag taaggtttat tctacctttt 2000  
 tctcaacatg acaccaacac aatcaaaaac gaagttatg agtgctaac 2050  
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 taccatgtc actggaattg ggcgatattg tttatttttt ctccctgat 2150  
 ttggataacc aaatggaaca ggaggaggat agtgattctg atggccattc 2200  
 cctcgatata ttcctggctt ttttctgggc aaagggtgcc acattggaag 2250  
 aggtggaaat ataagttctg aaatctgtag ggaagagaac acattaagtt 2300

aattcaaagg aaaaaatcat catctatgtt ccagatttct cattaagac 2350  
 aaagttacc acaacactga gatcacatct aagtgacact cctattgtca 2400  
 ggtctaaata cattaaaaac ctcatgtgta ataggcgtat aatgtataac 2450  
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 ctaagccagg agtcacttgg aggcctttta atacaaaaa ttggagctgg 2650  
 aggccattat ccttagcaaa ctaatgcaga aacagaaaaa caactaccgc 2700  
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 gaaggaaca atagacattg gagtctattt gagaggggag ggtgggagaa 2800  
 ggaaaggagg cagaaaagat aactattgag tactgccttc acacctgggt 2850  
 gatgaataa tatgtacaac aaatccctgt gacacatgtt tacctatgga 2900  
 acaaaccttc atgtgtatcc ctaaacctaa aataaaagtt aaaaaaaaaa 2950  
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 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3050  
 aaaaaaaaaa 3060

<210> 505  
 <211> 352  
 <212> PRT  
 <213> Homo Sapien

<400> 505

Met	Ala	Leu	Leu	Cys	Phe	Val	Leu	Leu	Cys	Gly	Val	Val	Asp	1	5	10	15
Phe	Ala	Arg	Ser	Leu	Ser	Ile	Thr	Thr	Pro	Glu	Glu	Met	Ile	Glu	20	25	30
Lys	Ala	Lys	Gly	Glu	Thr	Ala	Tyr	Leu	Pro	Cys	Lys	Phe	Thr	Leu	35	40	45
Ser	Pro	Glu	Asp	Gln	Gly	Pro	Leu	Asp	Ile	Glu	Trp	Leu	Ile	Ser	50	55	60
Pro	Ala	Asp	Asn	Gln	Lys	Val	Asp	Gln	Val	Ile	Ile	Leu	Tyr	Ser	65	70	75
Gly	Asp	Lys	Ile	Tyr	Asp	Asp	Tyr	Tyr	Pro	Asp	Leu	Lys	Gly	Arg	80	85	90
Val	His	Phe	Thr	Ser	Asn	Asp	Leu	Lys	Ser	Gly	Asp	Ala	Ser	Ile	95	100	105
Asn	Val	Thr	Asn	Leu	Gln	Leu	Ser	Asp	Ile	Gly	Thr	Tyr	Gln	Cys	110	115	120
Lys	Val	Lys	Lys	Ala	Pro	Gly	Val	Ala	Asn	Lys	Lys	Ile	His	Leu			

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Val Val Leu Val Lys	140	Pro Ser Gly Ala	Arg Cys Tyr Val Asp Gly		150
Ser Glu Glu Ile Gly	155	Ser Asp Phe Lys	Ile Lys Cys Glu Pro Lys		165
Glu Gly Ser Leu Pro	170	Leu Gln Tyr Glu Trp	Gln Lys Leu Ser Asp		180
Ser Gln Lys Met Pro	185	Thr Ser Trp Leu Ala	Glu Met Thr Ser Ser		195
Val Ile Ser Val Lys	200	Asn Ala Ser Ser Glu	Tyr Ser Gly Thr Tyr		210
Ser Cys Thr Val Arg	215	Asn Arg Val Gly Ser	Asp Gln Cys Leu Leu		225
Arg Leu Asn Val Val	230	Pro Pro Ser Asn Lys	Ala Gly Leu Ile Ala		240
Gly Ala Ile Ile Gly	245	Thr Leu Leu Ala Leu	Ala Leu Ile Gly Leu		255
Ile Ile Phe Cys Cys	260	Arg Lys Lys Arg Arg	Glu Glu Lys Tyr Glu		270
Lys Glu Val His His	275	Asp Ile Arg Glu Asp	Val Pro Pro Pro Lys		285
Ser Arg Thr Ser Thr	290	Ala Arg Ser Tyr Ile	Gly Ser Asn His Ser		300
Ser Leu Gly Ser Met	305	Ser Pro Ser Asn Met	Glu Gly Tyr Ser Lys		315
Thr Gln Tyr Asn Gln	320	Val Pro Ser Glu Asp	Phe Glu Arg Thr Pro		330
Gln Ser Pro Thr Leu	335	Pro Pro Ala Lys Phe	Lys Tyr Pro Tyr Lys		345
Thr Asp Gly Ile Thr	350	Val Val			

<210> 506  
 <211> 1705  
 <212> DNA  
 <213> Homo Sapien

<400> 506  
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 ccagctgcct ccaggcagcc agccctcaag catcacttac aggaccagag 150  
 ggacaagaca tgactgtgat gaggagctgc ttctgccaat ttaacaccaa 200  
 gaagaattga ggctgcttg gaggaaggcc aggaggaaca cgagactgag 250

agatgaattt tcaacagagg ctgcaaagcc tgtggacttt agccagaccc 300  
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 gaagggtgct ctggatgctg tgaagagtct acagagaaga ttcttgtatt 1100  
 tattacaact ctatttaatt aatgtcagta ttcaactga agttctatct 1150  
 atttgtgaga ctgtaagtta catgaaggca gcagaatatt gtgccccatg 1200  
 cttctttacc cctcaaatc cttgccacag tgtggggcag tggatgggtg 1250  
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 gctgatggtg acattgcacc tggatgtact atccaatctg tgatgacatt 1650  
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 aaaaa 1705

<210> 507  
 <211> 206  
 <212> PRT



<213> Homo Sapien

<400> 507

Met	Asn	Phe	Gln	Gln	Arg	Leu	Gln	Ser	Leu	Trp	Thr	Leu	Ala	Arg
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Pro	Phe	Cys	Pro	Pro	Leu	Leu	Ala	Thr	Ala	Ser	Gln	Met	Gln	Met
				20					25					30
Val	Val	Leu	Pro	Cys	Leu	Gly	Phe	Thr	Leu	Leu	Leu	Trp	Ser	Gln
				35					40					45
Val	Ser	Gly	Ala	Gln	Gly	Gln	Glu	Phe	His	Phe	Gly	Pro	Cys	Gln
				50					55					60
Val	Lys	Gly	Val	Val	Pro	Gln	Lys	Leu	Trp	Glu	Ala	Phe	Trp	Ala
				65					70					75
Val	Lys	Asp	Thr	Met	Gln	Ala	Gln	Asp	Asn	Ile	Thr	Ser	Ala	Arg
				80					85					90
Leu	Leu	Gln	Gln	Glu	Val	Leu	Gln	Asn	Val	Ser	Asp	Ala	Glu	Ser
				95					100					105
Cys	Tyr	Leu	Val	His	Thr	Leu	Leu	Glu	Phe	Tyr	Leu	Lys	Thr	Val
				110					115					120
Phe	Lys	Asn	His	His	Asn	Arg	Thr	Val	Glu	Val	Arg	Thr	Leu	Lys
				125					130					135
Ser	Phe	Ser	Thr	Leu	Ala	Asn	Asn	Phe	Val	Leu	Ile	Val	Ser	Gln
				140					145					150
Leu	Gln	Pro	Ser	Gln	Glu	Asn	Glu	Met	Phe	Ser	Ile	Arg	Asp	Ser
				155					160					165
Ala	His	Arg	Arg	Phe	Leu	Leu	Phe	Arg	Arg	Ala	Phe	Lys	Gln	Leu
				170					175					180
Asp	Val	Glu	Ala	Ala	Leu	Thr	Lys	Ala	Leu	Gly	Glu	Val	Asp	Ile
				185					190					195
Leu	Leu	Thr	Trp	Met	Gln	Lys	Phe	Tyr	Lys	Leu				
				200					205					

<210> 508

<211> 924

<212> DNA

<213> Homo Sapien

<400> 508

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cggtctcagg agatgtctga tttccacaga catgcaccat atagaagaga 150  
gtttccaaga aatcaaaaga gccatccaag ctaaggacac ctccccaagt 200  
gtcactatcc tgtccacatt ggagactctg cagatcatta agcccttaga 250  
tgtgtgtctg gtgaccaaga acctcctggc gttctactgt gacaggggtg 300



Trp Ile Asn Lys Asn His Glu Val Met Phe Ser Ala  
170 175

<210> 510  
<211> 996  
<212> DNA  
<213> Homo Sapien

<400> 510  
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tccacaggtg tccactccca ggtccaactg caccctgggt ctatcgataa 200  
ttctcagcacc agccactcag agcagggcac gatgttgggg gccgcctca 250  
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gcctatccca atgcctcccc actgctcggc tccagctggg gtggcctgat 350  
ccacctgtac acagccacag ccaggaacag ctaccacctg cagatccaca 400  
agaatggcca tgtggatggc gcaccccatc agaccatcta cagtgccttg 450  
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tacgacgtct accactctcc tcagtatcac ttcttggtca gtctgggccc 650  
ggcgaagaga gccttcctgc caggcatgaa cccaccccg tactccca 700  
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ccacggcggc acaccggag cgccgaggac gactcggagc gggacccct 800  
gaacgtgctg aagccccggg cccggatgac cccggccccg gcctctctgt 850  
cacaggagct ccgagcggc gaggacaaca gcccgatggc cagtgacca 900  
ttaggggtg tcagggggcg tcgagtgaac acgcacgctg ggggaacggg 950  
cccgaaggc tgccgccct tcgccaagtt catctagggt cgctgg 996

<210> 511  
<211> 251  
<212> PRT  
<213> Homo Sapien

<400> 511  
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Val Cys Ser Met Ser Val Leu Arg Ala Tyr Pro Asn Ala Ser Pro  
20 25 30

Leu Leu Gly Ser Ser Trp Gly Gly Leu Ile His Leu Tyr Thr Ala  
 35 40 45  
 Thr Ala Arg Asn Ser Tyr His Leu Gln Ile His Lys Asn Gly His  
 50 55 60  
 Val Asp Gly Ala Pro His Gln Thr Ile Tyr Ser Ala Leu Met Ile  
 65 70 75  
 Arg Ser Glu Asp Ala Gly Phe Val Val Ile Thr Gly Val Met Ser  
 80 85 90  
 Arg Arg Tyr Leu Cys Met Asp Phe Arg Gly Asn Ile Phe Gly Ser  
 95 100 105  
 His Tyr Phe Asp Pro Glu Asn Cys Arg Phe Gln His Gln Thr Leu  
 110 115 120  
 Glu Asn Gly Tyr Asp Val Tyr His Ser Pro Gln Tyr His Phe Leu  
 125 130 135  
 Val Ser Leu Gly Arg Ala Lys Arg Ala Phe Leu Pro Gly Met Asn  
 140 145 150  
 Pro Pro Pro Tyr Ser Gln Phe Leu Ser Arg Arg Asn Glu Ile Pro  
 155 160 165  
 Leu Ile His Phe Asn Thr Pro Ile Pro Arg Arg His Thr Arg Ser  
 170 175 180  
 Ala Glu Asp Asp Ser Glu Arg Asp Pro Leu Asn Val Leu Lys Pro  
 185 190 195  
 Arg Ala Arg Met Thr Pro Ala Pro Ala Ser Cys Ser Gln Glu Leu  
 200 205 210  
 Pro Ser Ala Glu Asp Asn Ser Pro Met Ala Ser Asp Pro Leu Gly  
 215 220 225  
 Val Val Arg Gly Gly Arg Val Asn Thr His Ala Gly Gly Thr Gly  
 230 235 240  
 Pro Glu Gly Cys Arg Pro Phe Ala Lys Phe Ile  
 245 250

<210> 512  
 <211> 2015  
 <212> DNA  
 <213> Homo Sapien

<400> 512  
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 ctgctgggag gttgggtctct ctgggagctc tgcaggcccc agcaccgcga 150  
 gaggcagcac tgcgatgaca acggacgaca cagaagtgcc cgctatgact 200  
 ctaggaccgg gccacgccg cctggaaact caaacgctga gcgctgagac 250  
 ctcttctagg gcctcaacc cagcgggcc cattccagaa gcagagacca 300

ggggagccaa gagaatttcc cctgcaagag agaccaggag ttccacaaaa 350  
 acatctccca acttcattgt gctgatcgcc acctccgtgg agacatcagc 400  
 cgccagtggc agccccagg gagctggaat gaccacagtt cagaccatca 450  
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 caccctocaca gaagctaagg gcctgtcttc agagagcagt gcctcttcgc 600  
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 tcttcgacg gccccatcc agtcacacc ccgtcacggg cctcagagag 700  
 cagcgctct tcgacggcc cccatccagt catcaccccg tcatggctcc 750  
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 catccctggg gcctcagaca tagatctcat cccacaggaa ggggtgaagg 900  
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 ccacacatca ctgaggctac agcctctgcc gagaccctgt ccacagccgg 1000  
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 ccagcaggga cctcttctt tctgtccctc cgactacaac caacgacgc 1400  
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 cagcagctcc accgggaact ccacgccac gcgcctcact tccaggtctc 1650  
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gggtgccttg gactcacctt ggcacatggt ctgtgtttca gtaaagagag 1950  
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 gtggcccaaa aaaaa 2015

<210> 513  
 <211> 482  
 <212> PRT  
 <213> Homo Sapien

<400> 513  
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 35 40 45  
 Met Thr Leu Ala Pro Gly His Ala Ala Leu Glu Thr Gln Thr Leu  
 50 55 60  
 Ser Ala Glu Thr Ser Ser Arg Ala Ser Thr Pro Ala Gly Pro Ile  
 65 70 75  
 Pro Glu Ala Glu Thr Arg Gly Ala Lys Arg Ile Ser Pro Ala Arg  
 80 85 90  
 Glu Thr Arg Ser Phe Thr Lys Thr Ser Pro Asn Phe Met Val Leu  
 95 100 105  
 Ile Ala Thr Ser Val Glu Thr Ser Ala Ala Ser Gly Ser Pro Glu  
 110 115 120  
 Gly Ala Gly Met Thr Thr Val Gln Thr Ile Thr Gly Ser Asp Pro  
 125 130 135  
 Glu Glu Ala Ile Phe Asp Thr Leu Cys Thr Asp Asp Ser Ser Glu  
 140 145 150  
 Glu Ala Lys Thr Leu Thr Met Asp Ile Leu Thr Leu Ala His Thr  
 155 160 165  
 Ser Thr Glu Ala Lys Gly Leu Ser Ser Glu Ser Ser Ala Ser Ser  
 170 175 180  
 Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg Ala Ser Glu Ser  
 185 190 195  
 Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg  
 200 205 210  
 Ala Ser Glu Ser Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile  
 215 220 225  
 Thr Pro Ser Trp Ser Pro Gly Ser Asp Val Thr Leu Leu Ala Glu  
 230 235 240  
 Ala Leu Val Thr Val Thr Asn Ile Glu Val Ile Asn Cys Ser Ile  
 245 250 255

Thr	Glu	Ile	Glu	Thr	Thr	Thr	Ser	Ser	Ile	Pro	Gly	Ala	Ser	Asp
				260					265					270
Ile	Asp	Leu	Ile	Pro	Thr	Glu	Gly	Val	Lys	Ala	Ser	Ser	Thr	Ser
				275					280					285
Asp	Pro	Pro	Ala	Leu	Pro	Asp	Ser	Thr	Glu	Ala	Lys	Pro	His	Ile
				290					295					300
Thr	Glu	Val	Thr	Ala	Ser	Ala	Glu	Thr	Leu	Ser	Thr	Ala	Gly	Thr
				305					310					315
Thr	Glu	Ser	Ala	Ala	Pro	His	Ala	Thr	Val	Gly	Thr	Pro	Leu	Pro
				320					325					330
Thr	Asn	Ser	Ala	Thr	Glu	Arg	Glu	Val	Thr	Ala	Pro	Gly	Ala	Thr
				335					340					345
Thr	Leu	Ser	Gly	Ala	Leu	Val	Thr	Val	Ser	Arg	Asn	Pro	Leu	Glu
				350					355					360
Glu	Thr	Ser	Ala	Leu	Ser	Val	Glu	Thr	Pro	Ser	Tyr	Val	Lys	Val
				365					370					375
Ser	Gly	Ala	Ala	Pro	Val	Ser	Ile	Glu	Ala	Gly	Ser	Ala	Val	Gly
				380					385					390
Lys	Thr	Thr	Ser	Phe	Ala	Gly	Ser	Ser	Ala	Ser	Ser	Tyr	Ser	Pro
				395					400					405
Ser	Glu	Ala	Ala	Leu	Lys	Asn	Phe	Thr	Pro	Ser	Glu	Thr	Pro	Thr
				410					415					420
Met	Asp	Ile	Ala	Thr	Lys	Gly	Pro	Phe	Pro	Thr	Ser	Arg	Asp	Pro
				425					430					435
Leu	Pro	Ser	Val	Pro	Pro	Thr	Thr	Thr	Asn	Ser	Ser	Arg	Gly	Thr
				440					445					450
Asn	Ser	Thr	Leu	Ala	Lys	Ile	Thr	Thr	Ser	Ala	Lys	Thr	Thr	Met
				455					460					465
Lys	Pro	Gln	Gln	Pro	Arg	Pro	Arg	Leu	Pro	Gly	Arg	Gly	Arg	Pro
				470					475					480

Gln Thr

<210> 514  
 <211> 2284  
 <212> DNA  
 <213> Homo Sapien

<400> 514  
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 ggcgccgggg tcctctcgac gccagagaga aatctcatca tctgtgcagc 150  
 cttcttaaa caaactaaga ccagagggag gattatcctt gacctttgaa 200  
 gacccaaaact aaactgaaat ttaaaatgtt cttcggggga gaaggagact 250

tgacttacac tttggtaata atttgcttcc tgacactaag gctgtctgct 300  
 agtcagaatt gctcaaaaa gagtctagaa gatgttgta ttgacatcca 350  
 gtcatctctt tctaaggga tcaaggagcaa tgagcccga tatacttcaa 400  
 ctcaagaaga ctgcattaat tcttgctgtt caacaaaaaa catatcaggg 450  
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 aaccagcaaa aggacttatg agttacagga taattacaga ttttccatct 600  
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 cttccagcc acagctggcc accacagctc cacctgtaac cactgtcact 1050  
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 tacactcaa gcaatggcta caacagcagt tctgactacc accttccag 1150  
 cacctacgga ctgaaaaggc agcttagaaa ccataccgtt tacagaaac 1200  
 tccaacttaa ctttgaacac agggaatgtg tataacccta ctgcactttc 1250  
 tatgtcaaat gtggagctt ccactatgaa taaaactgct tcctgggaag 1300  
 gtggggaggc cagtcaggc agttcctccc agggcagtg tccagaaaat 1350  
 cagtacggcc ttccatttga aaaatggctt cttatcgggt ccctgctctt 1400  
 tgggtgctgt ttctgggtga taggcctcgt cctcctgggt agaatccttt 1450  
 cggaatcact ccgagga aaa cgttactcaa gactggatta ttgatcaat 1500  
 gggatctatg tggacatcta aggatggaac tcgggtgtct ttaattcatt 1550  
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 acacctgggt gatttttga tttttagtag agacggggtt tcaccatgtt 1850



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 gttttatggt tgggttttga gaaggaatga agtgggaacc aaattaggta 2000  
 attttgggta atctgtctct aaaatattag ctaaaaacaa agctctatgt 2050  
 aaagtaataa agtataattg ccatataaat ttcaaaattc aactggcctt 2100  
 tatgcaaaga aacagggttag gacatctagg ttccaattca ttcacattct 2150  
 tgggttcaga taaaatcaac tgtttatctc aatttctaata ggatttgctt 2200  
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 aattaaatat ttgaataaat cttttgttac tcaa 2284

<210> 515  
 <211> 431  
 <212> PRT  
 <213> Homo Sapien

<400> 515  
 Met Phe Phe Gly Gly Glu Gly Ser Leu Thr Tyr Thr Leu Val Ile  
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 Ile Cys Phe Leu Thr Leu Arg Leu Ser Ala Ser Gln Asn Cys Leu  
 20 25 30  
 Lys Lys Ser Leu Glu Asp Val Val Ile Asp Ile Gln Ser Ser Leu  
 35 40 45  
 Ser Lys Gly Ile Arg Gly Asn Glu Pro Val Tyr Thr Ser Thr Gln  
 50 55 60  
 Glu Asp Cys Ile Asn Ser Cys Cys Ser Thr Lys Asn Ile Ser Gly  
 65 70 75  
 Asp Lys Ala Cys Asn Leu Met Ile Phe Asp Thr Arg Lys Thr Ala  
 80 85 90  
 Arg Gln Pro Asn Cys Tyr Leu Phe Phe Cys Pro Asn Glu Glu Ala  
 95 100 105  
 Cys Pro Leu Lys Pro Ala Lys Gly Leu Met Ser Tyr Arg Ile Ile  
 110 115 120  
 Thr Asp Phe Pro Ser Leu Thr Arg Asn Leu Pro Ser Gln Glu Leu  
 125 130 135  
 Pro Gln Glu Asp Ser Leu Leu His Gly Gln Phe Ser Gln Ala Val  
 140 145 150  
 Thr Pro Leu Ala His His His Thr Asp Tyr Ser Lys Pro Thr Asp  
 155 160 165  
 Ile Ser Trp Arg Asp Thr Leu Ser Gln Lys Phe Gly Ser Ser Asp  
 170 175 180  
 His Leu Glu Lys Leu Phe Lys Met Asp Glu Ala Ser Ala Gln Leu  
 185 190 195

Leu Ala Tyr Lys Glu Lys Gly His Ser Gln Ser Ser Gln Phe Ser  
200 205 210

Ser Asp Gln Glu Ile Ala His Leu Leu Pro Glu Asn Val Ser Ala  
215 220 225

Leu Pro Ala Thr Val Ala Val Ala Ser Pro His Thr Thr Ser Ala  
230 235 240

Thr Pro Lys Pro Ala Thr Leu Leu Pro Thr Asn Ala Ser Val Thr  
245 250 255

Pro Ser Gly Thr Ser Gln Pro Gln Leu Ala Thr Thr Ala Pro Pro  
260 265 270

Val Thr Thr Val Thr Ser Gln Pro Pro Thr Thr Leu Ile Ser Thr  
275 280 285

Val Phe Thr Arg Ala Ala Ala Thr Leu Gln Ala Met Ala Thr Thr  
290 295 300

Ala Val Leu Thr Thr Phe Gln Ala Pro Thr Asp Ser Lys Gly  
305 310 315

Ser Leu Glu Thr Ile Pro Phe Thr Glu Ile Ser Asn Leu Thr Leu  
320 325 330

Asn Thr Gly Asn Val Tyr Asn Pro Thr Ala Leu Ser Met Ser Asn  
335 340 345

Val Glu Ser Ser Thr Met Asn Lys Thr Ala Ser Trp Glu Gly Arg  
350 355 360

Glu Ala Ser Pro Gly Ser Ser Ser Gln Gly Ser Val Pro Glu Asn  
365 370 375

Gln Tyr Gly Leu Pro Phe Glu Lys Trp Leu Leu Ile Gly Ser Leu  
380 385 390

Leu Phe Gly Val Leu Phe Leu Val Ile Gly Leu Val Leu Leu Gly  
395 400 405

Arg Ile Leu Ser Glu Ser Leu Arg Arg Lys Arg Tyr Ser Arg Leu  
410 415 420

Asp Tyr Leu Ile Asn Gly Ile Tyr Val Asp Ile  
425 430

<210> 516  
<211> 2749  
<212> DNA  
<213> Homo Sapien

<220>  
<221> unsure  
<222> 1869, 1887  
<223> unknown base

<400> 516  
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ttgcctgctg ctcccaggtt atgaagccct ggagggccca gaggaatatca 100



gagctctgcat ttgggctgtg acgtctccac ctgcccacat agatctgctc 1750  
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 caggccttgg tcaggtcagg tgcacattgc aggataagcc caggaccggc 1850  
 acagaagtgg ttgccttnc catttgcct ccttggncca tgccctcttg 1900  
 cctttggaaa aaatgatgaa gaaaaccttg gctccttctc tgtctggaaa 1950  
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 gagtgacagt aggtgtctaa cacagaggag agtaggaaca gggcggatgc 2050  
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 gaccttttta taaataaaat gttcatcagc tgcataaaaa aaaaaaaa 2749

<210> 517  
 <211> 332  
 <212> PRT  
 <213> Homo Sapien

<400> 517  
 Met Arg Leu Leu Val Leu Leu Trp Gly Cys Leu Leu Pro Gly  
 1 5 10 15  
 Tyr Glu Ala Leu Glu Gly Pro Glu Glu Ile Ser Gly Phe Glu Gly  
 20 25 30  
 Asp Thr Val Ser Leu Gln Cys Thr Tyr Arg Glu Glu Leu Arg Asp  
 35 40 45  
 His Arg Lys Tyr Trp Cys Arg Lys Gly Gly Ile Leu Phe Ser Arg  
 50 55 60  
 Cys Ser Gly Thr Ile Tyr Ala Glu Glu Glu Gly Gln Glu Thr Met  
 65 70 75

Lys	Gly	Arg	Val	Ser	Ile	Arg	Asp	Ser	Arg	Gln	Glu	Leu	Ser	Leu	80	85	90
Ile	Val	Thr	Leu	Trp	Asn	Leu	Thr	Leu	Gln	Asp	Ala	Gly	Glu	Tyr	95	100	105
Trp	Cys	Gly	Val	Glu	Lys	Arg	Gly	Pro	Asp	Glu	Ser	Leu	Leu	Ile	110	115	120
Ser	Leu	Phe	Val	Phe	Pro	Gly	Pro	Cys	Cys	Pro	Pro	Ser	Pro	Ser	125	130	135
Pro	Thr	Phe	Gln	Pro	Leu	Ala	Thr	Thr	Arg	Leu	Gln	Pro	Lys	Ala	140	145	150
Lys	Ala	Gln	Gln	Thr	Gln	Pro	Pro	Gly	Leu	Thr	Ser	Pro	Gly	Leu	155	160	165
Tyr	Pro	Ala	Ala	Thr	Thr	Ala	Lys	Gln	Gly	Lys	Thr	Gly	Ala	Glu	170	175	180
Ala	Pro	Pro	Leu	Pro	Gly	Thr	Ser	Gln	Tyr	Gly	His	Glu	Arg	Thr	185	190	195
Ser	Gln	Tyr	Thr	Gly	Thr	Ser	Pro	His	Pro	Ala	Thr	Ser	Pro	Pro	200	205	210
Ala	Gly	Ser	Ser	Arg	Pro	Pro	Met	Gln	Leu	Asp	Ser	Thr	Ser	Ala	215	220	225
Glu	Asp	Thr	Ser	Pro	Ala	Leu	Ser	Ser	Gly	Ser	Ser	Lys	Pro	Arg	230	235	240
Val	Ser	Ile	Pro	Met	Val	Arg	Ile	Leu	Ala	Pro	Val	Leu	Val	Leu	245	250	255
Leu	Ser	Leu	Leu	Ser	Ala	Ala	Gly	Leu	Ile	Ala	Phe	Cys	Ser	His	260	265	270
Leu	Leu	Leu	Trp	Arg	Lys	Glu	Ala	Gln	Gln	Ala	Thr	Glu	Thr	Gln	275	280	285
Arg	Asn	Glu	Lys	Phe	Trp	Leu	Ser	Arg	Leu	Thr	Ala	Glu	Glu	Lys	290	295	300
Glu	Ala	Pro	Ser	Gln	Ala	Pro	Glu	Gly	Asp	Val	Ile	Ser	Met	Pro	305	310	315
Pro	Leu	His	Thr	Ser	Glu	Glu	Glu	Leu	Gly	Phe	Ser	Lys	Phe	Val	320	325	330

Ser Ala

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